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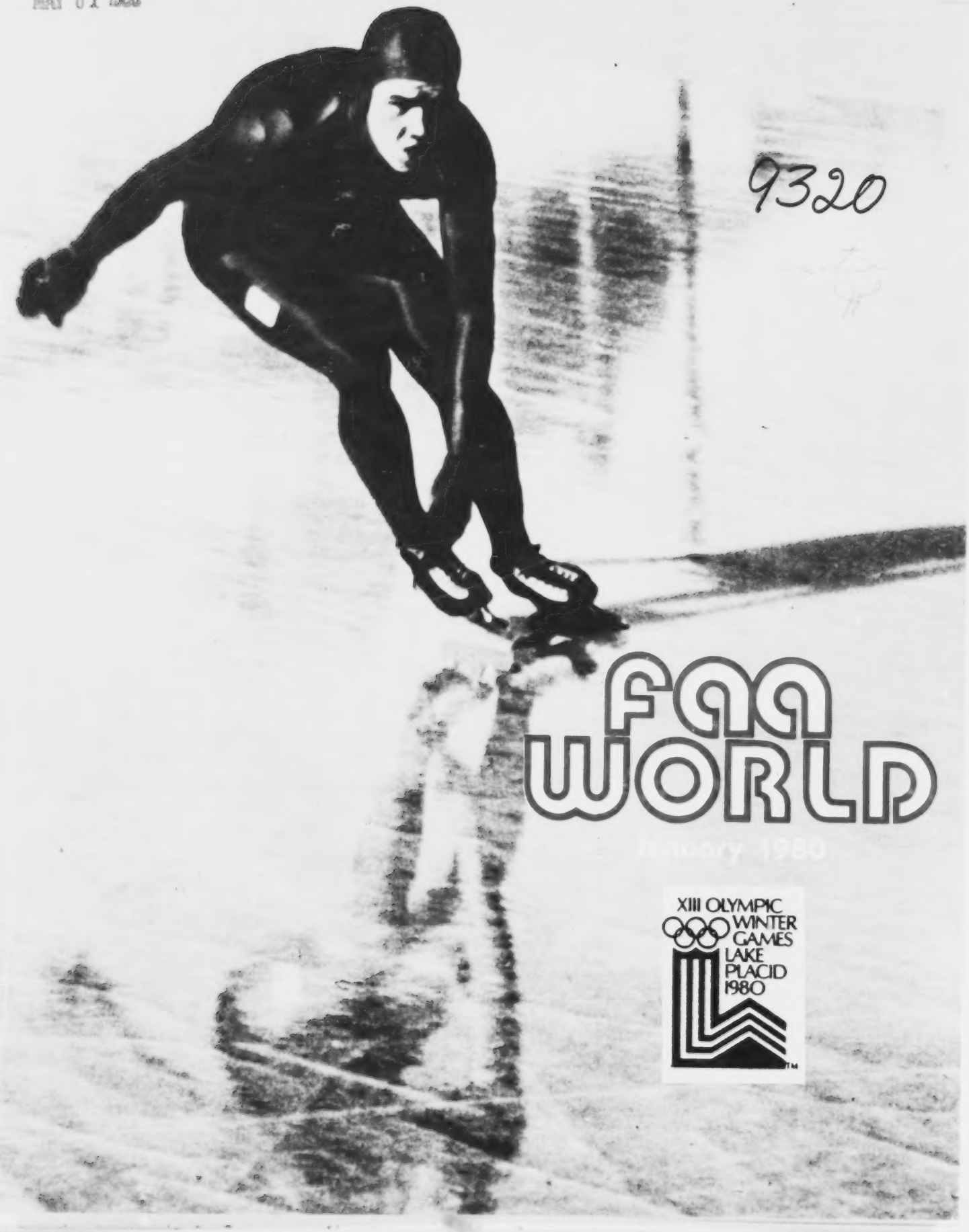

faa WORLD

January 1980

XIII OLYMPIC WINTER GAMES LAKE PLACID 1980

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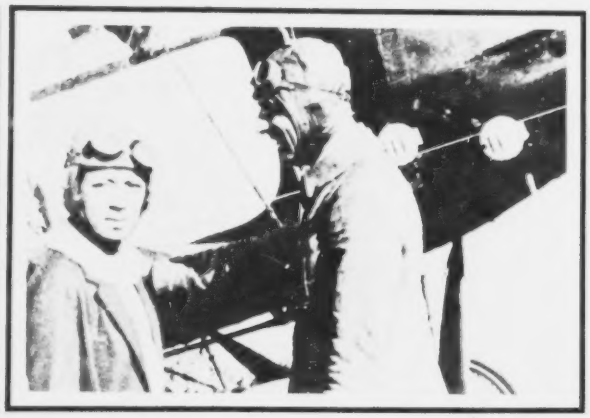
Opposite: *Ruth Law taking off from Chicago's Grant Park on a flight that broke the U.S. nonstop cross-country record and world record for women and the second-best world nonstop cross-country record. She ran out of fuel on Nov. 19, 1916, at Hornell, N.Y., and completed her flight to New York City the next day.*
Insets: *Blanche Scott, the only woman taught to fly by Glenn Curtiss and possibly the first woman to solo on Sept. 2, 1910. Bessie Coleman, the first black woman to earn a pilot's license is shown with aircraft designer-builder Tony Fokker in The Netherlands in the early 1920s.*

The cover: *Speed skaters like this will be among the participants in the XIII Winter Olympic Games to be held at Lake Placid, N.Y., in February. To prepare for the event, FAA had airport and air-traffic capacity to plan for.* *See story on page 8.*

Photo courtesy of
Lake Placid Olympic Organizing Committee



When Women Joined the Helmet and Goggles Set

There were two ridiculous statements made during aviation's early days: that airplanes would never be commercially successful and that women were not physically designed to become pilots.

While both statements long ago were proved wrong, it was women who triumphed first. Less than a decade after the Wright Brothers flight at Kitty Hawk, women were taking to the air in flimsy aircraft flying with the same verve and elan as the daring young men of the period.

Blanche Scott probably was the first American woman to fly an airplane,

Chicago Historical Society photo

Eddie and Katherine Stinson at Cicero Field, Chicago, in 1915. Eddie later became a famed aircraft designer-builder. Katherine, the fourth woman to obtain a pilot's license, was the first to fly the mail.

Emil M. Laird photo

Endurance-record holder Ruth Law.

Smithsonian Institution photo

although Dr. Bessica Raiche, a Wisconsin-born physician, soloed about the same time, and some accord her the honor of being America's first female flyer. But Miss Scott did have the distinction of being the only woman taught to fly by famed pilot and aircraft designer/builder Glenn Curtiss, and she made the most of her skills.

Soon after her first solo, on September 2, 1910, she joined the Curtiss exhibition team, making her public debut the next month at an air meet in Chicago. Billed as "The Tomboy of the Air" and "The Most Famous Aviatrix in the World," she performed many daring feats which made her the darling of spectators at exhibitions. These included a "Death Dive" in which she would zoom straight down from 4,000 feet, leveling off only 200 feet from the ground; flying upside down, 20 feet off the ground; and flying under bridges.

While Miss Scott was piloting a Baldwin Red Devil airplane for the Ward Exhibition Team on May 31, 1913, at Madison, Wis., a wing cable snapped and the plane crashed in a swamp, injuring her shoulder. She retired a few years later, disappointed because the public seemed more interested in crashes than in providing opportunities for women in aviation.

Blanche Scott never obtained a pilot's license. Few aviators, men or women, did in those early days, although the Federation Aeronautique Internationale in France, still the world's repository for all types of aviation records, was offering them through the Aero Club of America. The first American woman to earn a license, number 37, was Harriet Quimby, a newspaper and magazine writer from Coldwater, Mich., who passed the Aero Club's test on August 1, 1911. Miss Quimby achieved a number of firsts, including the distinction of being the first woman to fly the English Channel, before she was killed in a plane crash on July 1, 1912, at Boston.

Matilde Moisant, Miss Quimby's best friend, was the second American woman to earn a license, on August 13, 1911, with certificate number 44. She also was a student at the Moisant School, operated by her brothers, and, after graduation, flew with the Moisant International Aviators.

The fourth woman in the U.S. to obtain a license was Katherine Stinson, undoubtedly the best known of early woman fliers. She received her certificate on July 24, 1912, at Cicero Field, Chicago, where she learned from the famed Max Lillie. The Stinson family also consisted of her brother Eddie, founder of Stinson Aircraft Company, another brother, Jack, and her sister, Marjorie, all of whom were noted pilots.

Katherine Stinson also was the first woman to fly the mail, from September 23 to 27, 1913, while performing at the Helena, Mont., fairgrounds. On July 18, 1915, at Cicero Field, she became the first woman in the world to loop-the-loop.

In 1916, in the "Boneshaker," a tractor biplane she had rented from Emil M. "Matty" Laird, the famed aircraft designer/builder, she became the first woman to fly in China and Japan. She took two planes with her on her trip to the Orient, the other being a Patridge-Keller tractor biplane on which was mounted Lincoln Beachey's Gnome rotary engine. Later, she set a number of endurance

Amelia Earhart poses in front of her Lockheed Electra—the plane in which she disappeared over the Pacific Ocean in July 1937 with navigator Fred Noonan.

Smithsonian Institution photo

Janet Waterford, one of the first blacks to obtain a pilot's license, was also a model and a nurse.

Janet Waterford Collection

and distance records in the U.S. and Canada, including a 601.8-mile flight from Chicago to Binghamton, N.Y., in 10 hours, 10 minutes on May 23, 1918. The Stinson sisters both taught U.S. and Canadian military fliers at the Stinson Aviation School on their private flying field at San Antonio, Tex.

Julia Clark holds a special place in aviation history. She earned her pilot's license on May 19, 1912, at the Curtiss Flying School in San Diego. Less than a month later, on June 17, her plane struck a tree during a test flight and she was pinned under the wreckage. She died en route to a hospital, the first American woman pilot known to have been killed in an airplane accident.

Though most women, as well as men, learned to fly by-guess-and-by-gosh, a few schools already were in business, and some of them welcomed women. Among these were the Moisant school at Hempstead, N.Y., and the Wright school at Dayton, Ohio.

On the West Coast, the Bennett Aero

FAA Women Pilots—Then and Now

The Federal Government first got involved in licensing pilots following the passage of the Air Commerce Act of 1926.

The next year, Phoebe Omlie became the first woman to receive a pilot's license (No. 199) from the newly-formed Aeronautics Branch in the Department of Commerce. She and her husband formed a famous flying stunt team that toured the U.S. in the 1920s, and later she went on to win national air races on her own. In 1933, President Roosevelt appointed her to the National Advisory Committee on Aeronautics as a technical adviser, and in 1941, she became a flying specialist for the Civil Aeronautics Administration (CAA).

In the meantime, she and Amelia Earhart, who served as a consultant to the Aeronautics Branch, got involved in a project to mark the names of towns and cities on the roofs of buildings and on highways as a guide to pilots. They got prominent women flyers of the day to promote the air-marking project, and in the mid-1930s, five of them were hired by the Bureau of Air Commerce, as FAA's predecessor agency was known from 1934-1938 when it became the CAA.

Of the five—Blanche Noyes, Helen Richey, Nancy Harkness, Louise Thaden and Helen McCloskey—only Mrs. Noyes pursued a Federal career, retiring in 1972. She brought to her career the distinction of being the first woman pilot in Ohio and one of the first in the nation (License No. 6540). Moreover, she was a celebrated flyer who finished fourth in the first Powder Puff Derby in 1929, for instance, and who teamed with Louise Thaden to win the 1936 Bendix Transcontinental Air Race.

Today, there are 30 women working as pilots for the FAA, all of them stationed at General Aviation District Offices (GADO) or Flight Standards District Offices (FSDO). An example is Ann Lawton, Aviation Safety Inspector (Operations) at the Baltimore GADO, who has a commercial pilot's license with instrument rating and a flight instructor's certificate. Asked if there were anything she couldn't do that her male counterparts at the GADO could, she replied: "Go to the men's room, I guess."

Lola Jones and Willa Brown, early black pilots, at Harlem Airport, Chicago. Brown and Cornelia Coffey operated the Coffey School of Aviation prior to and during World War II.

Smithsonian Institution photo

In addition to being an early "girlbird," Julia Clark's distinction is that of possibly being the first woman to be killed in an air-crash in 1912—less than a month after earning her wings at the Glenn Curtiss school.

Company of The Palms, Calif., featured Alys McKey, who learned to fly in the biplane Glenn Curtiss had used in his famed 1909 flight down the Hudson River. She soloed in November 1912 and was the first woman to fly in the states of Washington, Oregon and Idaho. At an exhibition before the Prince of Wales and the Duke of York at Vancouver, she became the first woman to fly in Canada. Like many others of the period, she did not obtain a license.

By 1920, women were still having difficulties learning to fly, as many flight schools refused to accept them. Bessie Coleman of Chicago had two strikes against her when she sought lessons, for she was black as well as female. But Miss Coleman had friends who urged her to go to France to learn, and she did, earning her Federation Aeronautique Internationale license in 1921. "Brave Bessie," as she was known to air show spectators, was the first licensed black woman pilot in the world and possibly the first of her race to earn a license. She also dreamed of starting a flight school for black aviators, but she was killed in a 1926 plane crash before achieving this goal.

Many other women have made a name for themselves in aviation over the years—Ruth Law, who set numerous speed, altitude and distance records in the pre-World War I era; Laura Ingalls, the first woman to make a non-stop transcontinental flight, among other achievements; Amelia Earhart, a legend even before she was lost at sea; Phoebe Omlie and Blanche Noyes (the latter subsequently an FAAer), who were among the first females to fly for the U.S. Government; Willa Brown and Janet Waterford, who pioneered the role of black women in aviation; and Jacqueline Cochran and Jerry Mock, another two of the more famous women aviators of yesteryear.

Airlines now have women as cockpit crewmembers; even the military is letting women fly (although many did fly for the Women's Airforce Service Pilots—WASPs—during World War II), and NASA has announced several women for the space program. Pioneer women pilots probably would be surprised at how long it took their sex to reach their aviation goals, but not that it happened.

By Marjorie Kriz and Neal Callahan

Harriet Quimby was the first American woman to obtain a license from the Federation Aeronautique Internationale through the Aero Club of America in 1911 and the first woman to fly across the English Channel.

Smithsonian Institution photo

WORD SEARCH

By Robert P. Wheeler, ATCS
Fort Worth, Tex., ARTCC

Airlines, familiar and not so familiar, are the subject of this month's puzzle.

The names read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The names may overlap, and letters may be used more than once.

Use the word list if you must, but try covering it first. All 59 can be found. Circle those you do find and cross them off the list. The name "Allegheny" has been circled to get you started and to call attention to the fact that it is now called "U.S. Air." When you give up, the answers may be found on page 13.

C A P I T O L F O R E A A E R O A M E R I C A B
O A M E R I L A N O I T A N S A E S R E V O R E
N I T E X A S Y N E H G E L L A R I A U O I Y A
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AIR CANADA
AIR FRANCE
AIRLIFT
ALASKA
ALLEGHENY
ALOHA
AMERICAN
ARTIC AIR
AUSTIN AIRWAYS
BEA AIRTOURS
BRANIFF
BRITISH CALEDONIAN AIRWAYS
CANADIAN PACIFIC
CAPITOL
LAKER AIRWAYS
CATHAY PACIFIC
CONDOR FLUGDIENST
CONTINENTAL
DELTA
EASTERN
EL AL
EVERGREEN
FEDERAL EXPRESS
FINNAIR
FLYING TIGER
FRONTIER
HAWAIIAN
HUGHES
IBERIA
KLM
JAPAN AIR
LUFTHANSA
NATIONAL
NEW YORK
NORTH CENTRAL
NORTHWEST ORIENT
OVERSEAS NATIONAL
OZARK
PACIFIC WESTERN
PAN AMERICAN
PIEDMONT
PSA
QANTAS
SCANDINAVIAN
SEABOARD
SOUTHERN
SOUTHWEST
SWISSAIR
TEXAS
TRANS AIR
TRANS INTERNATIONAL
TRANS WORLD
UNITED
VICKERS
WARD AIR
WESTERN
WORLD AIRWAYS

JUST A BUNCH OF WILD & CRAZY GUYS ... A great many people think government bureaucrats have no sense of humor and some of them may have gotten the idea from reading "Small World." They couldn't be more wrong. Our case in point is a group of government workers in Ottawa who recently got together, tongues tucked neatly in their cheeks, to stage the Canadian Public Service Games for the benefit of charity.

Among the events was the Bureaucratic Shuffle or Civil Service Two-Step in which the participants take one step forward and two steps backward. The winner of this event covered the 75-yard course in 16.25 seconds, an unofficial world's record.

The Red Tape Cutting contest also saw a world's record, although you probably won't find it in the Guiness Book. A three-man team from the Canadian Treasury Board sliced through 10 meters of red tape—lengthwise, of course—in an amazing eight seconds.

One of the highlights of the games was the Briefcase Toss. The winner heaved a "typical bureaucrat's briefcase" (contents: a week-old bologna sandwich, a banana, two sardines wrapped in aluminum foil, a draft press release and a secret document already leaked to the news media) a distance of 58 feet and nine inches.

In the Paper Airplane contest, FAA's Canadian counterpart in the Department of Transport finished far behind the winning flight of 74 feet. But our Canadian cousins did perform a very useful service by certificating the airworthiness of all entries, which had to be made from old press releases issued by the Canadian Accident Review Board.

A record also may have been set in the Pass-The-Buck Relay in which teams of six men and six women passed a Canadian dollar from the senior to the junior member. Unfortunately, in keeping with the spirit of the Games, none of the judges remembered to keep time.

The Games also had a cultural side, with an exhibit of paper-clip sculpture. The winner was an untitled creation that was picked for its lack of artistic merit as well as minimal use of government time and materials. All of the events were conducted during a typical bureacrat's lunch hour—72 minutes.

BETTER BOMB DETECTOR—*Theo Tsacoumis of Headquarters' Civil Aviation Security Division feeds baggage into a new machine developed by DOT's Transportation Systems Center for detecting explosives. Here at Logan International Airport in Boston, project chief Dr. John Hobbs adjusts the "decompression screening system," as Bill Fogerty (left, rear) and Earl Mallard of New England Region's Air Transportation Security Field Office stand by.*

SKYLAB FALLOUT—*William S. Smith (rig vironment and Energy, was awarded the Exc Medal of the National Aeronautics and Spac by NASA Administrator Dr. Robert A. Fros with the Skylab Re-entry Team.*

SPREADING THE WORD—*Royal Mink and Helen O'Rell of Western Region's Planning Staff explain FAA's role in aviation education to Civil Air Patrol members at a U.S. Air Force Pacific Region Aerospace Education Conference in Newport Beach, Calif.*

MOVING UP—*Thomas J. O'Brien is Deputy Director of NAFEC. The form of the center's Engineering Mana Staff, O'Brien previously was assista for systems analysis in the Office of Engineering Management.*

Faces and

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NEW AIRPORT RADAR—*Work crews install a new Airport Surface Detection Equipment (ASDE-3) radar at NAFEC/Atlantic City Airport where it's undergoing test and evaluation. The Cardion surveillance radar is expected to increase safety and reduce delays at more than 30 major airports.*

NEVER TOO LATE—*Likely the oldest FAAer on the agency payroll is Arthur A. Goodwin, 82 and a station maintenance laborer at the Baker, Ore., Airway Facilities Sector Field Unit. A carpenter and builder of flight service station furniture, Goodwin first joined the agency at the tender age of 70.*

REALLY SHARP SHOOTER—*Howard R. McGlothlin, Rocky Mountain Region security inspector, has done it again. For the sixth year, he has shot a perfect score with a .38-cal. snubnose revolver at the refresher course for Federal air marshals in Quantico, Va.—a feat unmatched by any other air marshal. This year, a course of unaimed timed firing was added to the qualifications; it left McGloghlin unperturbed.*

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ANNUAL KUDOS—*Evelyn Johnson of Morristown, Tenn., was selected Flight Instructor of the Year and Donald C. Summers as Aviation Mechanic of the Year in a competition sponsored by more than 30 general aviation companies and organizations and the FAA. Johnson has given over 5,000 flight tests and logged over 25,000 hours of instructional flying. Qualified in fixed-wing and helicopters, Summers has never had a complaint about his work filed with FAA. In headquarters ceremonies last fall, the pair were presented plaques by Associate Administrator for Aviation Standards Charles R. Foster (right in both photos).*

Places

Photo courtesy of Lake Placid Olympic Organizing Committee

Winter Olympics

—Not All Fun and Games

Glenn Broomell thought he had a problem when he was named chief of the temporary tower that will handle air traffic for the 1980 Winter Olympics in Lake Placid, N.Y. As matters turned out, he did, but the problem he encountered wasn't the one he had anticipated.

"I had 11 openings to fill and I wasn't sure I could get 11 applicants," he recalled with only a hint of irony in his voice. "Imagine my surprise when I received over 150 applications."

Given the complexity of the problem, Broomell, who is the chief of the Lancaster, Pa., tower, must have been tempted to use the dart board approach, but he says he gave each candidate serious consideration, knowing how much each wanted to be part of a great event. He noted that the winter games are the opportunity of a lifetime for avid skiers like himself, especially since the tower controllers will be on the preferred list to buy tickets.

After much soul searching, Broomell finally settled on his 11-member crew, all of them drawn from Level II and III facilities in the states of Pennsylvania, New York and Vermont. They are Paul Bendigo and George Bryce of the Reading tower; Jeffrey Hall and Gary McCalvin of Syracuse; William Boyer and George Schenck of Lancaster; Neil Peiffer and Robert Wright of Capital City (Harrisburg); James Berg and David Robins of Burlington, and William Zeiders of the Buffalo tower.

One of the first jobs Broomell and the Eastern Region had to tackle was finding a place for the tower crew to stay. This was no easy task in an area where "costs are astronomical." But by making reservations over a year ahead of time, rooms were found at motels near the airport for the entire crew.

The tower, situated 15 miles from Lake Placid at Adirondack Airport in Saranac Lake, N.Y., is operating from January 3 through March 1, with 24-hour-a-day operations beginning February 5. The heaviest traffic will coincide with the period the games actually are in progress—February 12 through 24—with big, well-equipped private and corporate jets predominating.

According to Broomell, "expensive, sophisticated jets are the kind of traffic we know we'll get. We know because we've helped the state set up a reservation system. For a few days, that little country airport will be a LaGuardia or a Teterboro."

"All in all, I would advise any pilot or aircraft owner without a reservation to avoid the area," he added.

Broomell is not the only FAA official who has tough decisions to make in connection with the 1980 Olympics. Ward Shandoff, Accident Prevention Specialist at the Albany, N.Y., General Aviation District Office, has been designated the local Flight Standards representative.

Among other things, he's been wrestling with the safety aspects of

picking up injured skiers with helicopters. The whirley-birds would have to land on precipitous slopes in high winds, and Shandoff is concerned about this. In fact, he is concerned with helicopter operations throughout the mountainous Lake Placid area.

He noted that FAA has tried to minimize the problems that helicopters might encounter by closing the small Lake Placid airport to everything but helicopters working directly with the Olympics. All of these chopper pilots must have attended special briefings and met other safety requirements.

Shandoff seemed to feel that the working relationship with the state DOT has been very good. "It's been a hand-in-hand thing," he said. "They've been very cooperative and pretty much followed our suggestions as far as safety is concerned."

Much of the information in the special briefing is the result of state DOT and Eastern Region FAA planning that goes back to 1977.

It was at about that time that the Lake Placid Olympic Organizing Committee's Transportation Committee was organized. A subcommittee tackled air traffic movement, control and safety problems. Louis P. DeRose, Chief of the Planning Branch of Eastern Region's Airport's Division, was the FAA representative on the subcommittee.

He said, "My job was to pull together the overall FAA plan for agency involvement." In doing this, he worked closely with the state DOT and the FAA en route center at Nashua, N.H.

After initial planning, one of the first projects to get underway was upgrading the Adirondack Airport which serves the Lake Placid-Saranac Lake area.

The FAA official responsible for the day-to-day planning in the airport-improvement program was Harvey DeGraw of the Eastern Region's Planning Division. DeGraw helped bring about a tremendous improvement to make the Adirondack Airport first rate.

Permanent improvements, funded largely by the Airport Development Aid Program (ADAP), included repaving and extending taxiways, upgrading lighting, runway grooving and installation of Distance Measuring Equipment (DME) and a solid-state Instrument Landing System (ILS).

"We decided against a radar," DeGraw told us, "but I campaigned for the solid-state ILS, and that we got. Considering the weather in this area, the ILS is a justifiable expenditure. During the winter, it's IFR about 70 percent of the time."

Bob Lenuzza of the Valley Stream, N.Y., Airports District Office was the project engineer for the ADAP project. Herbert Holstrom, assistant chief of the Engineering Branch,Airway Facilities Division, was in charge of the crew which set up the temporary tower and attendant navigation aids and power generators. Norman Brennan was construction representative for the Airway Facilities Division.

Also, virtually every program division in the Eastern Region assisted in establishing an airport reservation system, a helicopter operation for Olympic support at Lake Placid Airport or a temporary flight-restriction area for added security.

Alfred Panarese, Chief of the New York Air Transportation Security Field Office, and Robert Miller, Chief of the Newark ATSFU, were responsible for planning security measures at the two airports. Miller will be on site during the games.

So that's how it stands on the eve of the event—when the FAA planning for the 1980 Olympic Winter Games are about to be tested for their practicality and efficiency.

By Irving M. Moss

Airport planner Harvey DeGraw checks runway grooving at Adirondack Airport, which was part of ADAP-funded improvements for the Olympics. Temporary tower chief Glenn Broomell and Air Traffic Div. rep Al Reale (right) look on.

FAA's temporary air traffic control tower for the 1980 Olympics is at Adirondack Airport in Saranac Lake, N.Y.—about 15 miles from Lake Placid, whose small airport will be restricted to emergency helicopters.

Advance planning for the Olympics saw (clockwise from left) Al Reale, regional Air Traffic Division; Phil Engles, airport director; Harvey DeGraw, airport planner; Ward Shandoff, Albany GADO; and Eugene Bryant (back to camera), Albany tower chief, gather at Adirondack Airport.

FEDERAL NOTEBOOK

THE RETIREMENT VISTA

While the Universal Social Security Coverage Group has not yet made its report on interfacing Civil Service retirement with Social Security, the Social Security Advisory Council, which was established by Congress and meets every four years, has released the results of a two-year study on the subject. It recommends that Social Security coverage be mandatory for all new public employees and that Social Security not finance non-retirement benefits; such items as Medicare should be paid from the general treasury. According to the council, this would permit payroll taxes for it to be cut to 5.6 percent for a quarter century and leave enough money in the fund to pay old age and disability for more than half a century. The council also recommended that Social Security COLA be made semi-annual. ■ The House Ways and Means Committee has approved a bill (HR 5507) that would delay from Mar. 31, 1980, to January 1982 implementation of a law that prohibits unemployment compensation when Federal and other retirees lose subsequent jobs and would require offsetting any jobless benefits by the amount of Social Security benefits. The new bill would also leave these matters up to the individual states.

PAY POTPOURRI

The President's annual budget message to Congress is expected to include a 6.2 percent pay-raise planning figure for next October. This is said to reflect full comparability with private-sector pay and benefits under the proposed pay reform legislation. ■ Meanwhile, House hearings on the pay reform bill have produced critical testimony from a number of Congressmen, mainly on the proposal to transfer more pay-setting powers to the Executive Branch. The hearings are expected to continue for some time. ■ Sens. David Pryor (Ark) and Ted Stevens (Alaska) have introduced a bill to provide for continuation of government-payroll funding when appropriations are not approved by the start of a new fiscal year, provided a joint resolution is not passed by Congress a month before the end of the fiscal year withholding the funds.

TRAVELFLATION

The Administration is expected to propose legislation to boost per diem from $35 to $50 and, for high-cost areas, from $50 to $75. Since the current ceilings were set in 1976, the cost of living has risen about 32 percent.

FOR A WHITER SMILE

Reps. Charles H. Wilson (Calif) and Gladys Spellman (Md) have introduced a bill to provide optional prepaid dental health plans. However, it may become just a starting point for increasing dental benefits in existing health plans.

RECOVERING LEGAL FEES

The Comptroller General has agreed to a request by the Special Counsel of the Merit Systems Protection Board that permits the Special Counsel to recommend the payment of attorney fees for employees when he recommends corrective actions to agencies.

STAND UP AND BE COUNTED

The 20th Decennial Census of Population and Housing will begin April 1. In case you're worried, the information collected cannot be released or published in any manner that could identify a person or firm.

This news is based on information from non-FAA publications and does not reflect FAA policy or opinions.

You Need Only Wings To Fly

Instrument flight is difficult enough when a pilot has the normal complement of arms and legs.

So imagine how the problem is compounded when the pilot has lost both his legs and has to make do with hands, arms and elbows.

For Arthur Zervas, no imagination is necessary. A double amputee, he long since has mastered the intricacies of IFR operations and recently earned an FAA rating as a certified instrument flight instructor.

He is believed to be the first double amputee in the world to qualify as an instrument flight instructor.

And Zervas' achievement was no fluke, according to the man who gave him his check ride—Ken Brown of FAA's General Aviation District Office (GADO) in Norwood, Mass. "Zervas may be handicapped when he's on the ground," Brown noted, "but when he's in the air, he's in his element."

"Zervas took his check ride in a conventional Cessna 172," Brown said. "He uses a special tool to operate the rudder and brake pedals and manipulates it with his elbow while he controls the throttle with his hand. The device clips on the rudder controls and can be reversed so that he can fly from either seat in the aircraft."

Brown described the check ride as "routine" and "uneventful," which is another way of saying that Zervas is a thoroughly professional pilot. The only non-routine happening was a case of airsickness by a news photographer who was along to record the historic event for posterity.

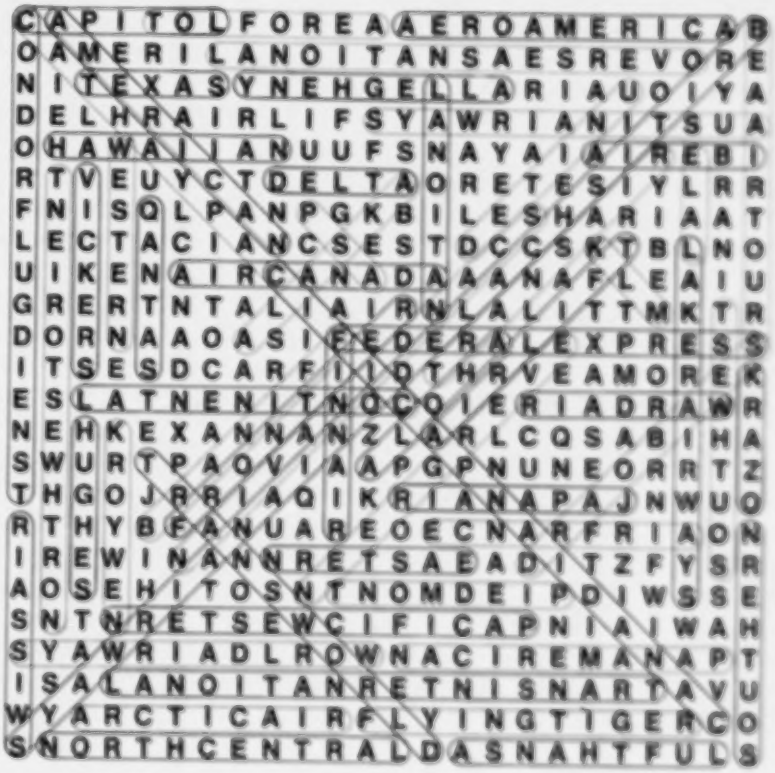
Norwood GADO chief Bill Cook did mention one problem that arose, however. Zervas didn't have his original pilot's certificate, having donated it to the Smithsonian's National Air and Space Museum in Washington after he became the first double amputee to earn a flight instructor's rating. But Cook contacted the records center at the FAA Aeronautical Center and verified that Zervas' could fly legally with a photostatic copy of his original ticket.

Zervas is employed by the Massachusetts Department of Corrections and also serves as the chief flight and ground instructor for Northeastern University in Burlington, Mass.

By Stan McDonough

Word Search Answer

Puzzle on page 7



DIRECT LINE

Q **Why is the agency not participating in compressed-workweek flexitime schedules authorized in PL 95-390. It would seem that all the reasons why this law was passed—such as the benefits of increased hours of availability to the public, energy savings, reduced traffic congestion and the resulting air pollution reduction and improved employee morale—would far outweigh any disadvantages. Such schedules could also offset the monetary loss incurred by employees with the imposition of parking fees. I have learned that personnel in the Rocky Mountain regional office are using such schedules and that the employees affected voted overwhelmingly to participate in such schedules. If that's so, it's reasonable to assume that other FAA non-bargaining-unit employees would be equally interested.**

A FAA carefully considered the advantages and disadvantages of participating in the three-year experimental alternative work schedules and, for a number of reasons, decided that it would not be beneficial for the agency as a whole to participate. One was based on the fact that the agency was in the process of converting to the Uniform Payroll System in graduated stages and that might be hampered by the additional complications of changed workweeks. Another reason was the projected personnel costs and time involved in possibly having to manually process the time and attendance cards of many employees with changed schedules. We finally decided to test the concept of compressed work schedules in one place under an experiment authorized by the Office of Personnel Management so that we could assess its impact on our administrative operations. We have since requested authority for two more small offices. Since the experiment is expected to last 18 months (until February 1981), its evaluation will not be available for some time. Until it is, it is not likely that we will have additional test programs. The agency also feels that without participating in the OPM test—that is, going ahead only under the Administrator's authority—it could not begin compressed schedules in other parts of the agency without incurring overtime costs for all hours of work in excess of eight hours a day. Only agencies or units participating in the OPM experiment are able to benefit from the suspension of certain overtime provisions of Title V, USC, and the Fair Labor Standards Act provided by PL 95-390. While the agency recognizes some definite advantages for both the agency and the employee of compressed work schedules, the disadvantages surfaced at the time of its consideration of the program outweighed them. The governmentwide evaluation of the test programs by the OPM and its recommendations to Congress will weigh heavily in any future discussions to extend compressed work schedules throughout the agency. FAA will consider the expansion of the program after the OPM evaluation is completed.

Q **The article "Happiness is . . . A Busy Retirement" in the January 1979 issue of FAA WORLD stated that there are seminars given in Washington Headquarters to help employees plan for their retirement. I don't think it's fair to the thousands of other employees scattered around the agency who are nearing retirement. In my own facility in the Great Lakes Region, there are five employees within five years of retirement, and I am within three years. I have been unable to get adequate information from the Personnel Management Division. If this program was developed in 1970 for Headquarters employees, why can't we get some assistance in the field nine years later?**

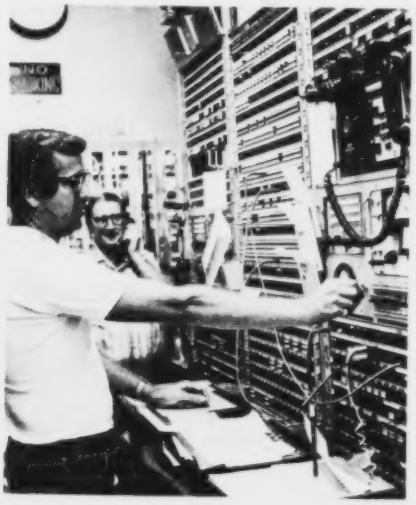
A The Great Lakes Region recognizes the importance of providing retirement information to its employees, although to date its program has not been very comprehensive. Right now, the region is trying to develop a complete program that would be made available throughout the region. However, progress has not been as rapid as hoped. Developing a retirement program for use in the field is considerably more complex than that in Headquarters, where the employees are in a single location, which minimizes scheduling difficulties and involves little or no travel expense. Great Lakes has more than 7,000 employees in six states. It is not economical to bring employees into a central point, as desirable as it may seem. With travel funds restricted, it will be even more difficult to do in the future. The region has in the past and will continue to send a representative from the Personnel Management Division out to conduct retirement briefings. Individual counseling is also available from personnel specialists. Several of the region's ARTCCs have conducted excellent programs of their own, and the region will try to notify your facility of the next program at the nearest center in sufficient time to permit some or all of the potential retirees to attend. In addition, the regional office notified the facility chiefs in your area that it would send a specialist there to provide counseling.

Is there something bugging you? Something you don't understand? Tell it to "Direct Line." We don't want your name unless you want to give it, but we do need to know your region. We want your query, your comment, your idea—with specifics, so that a specific answer can be provided. All will be answered here, in the bulletin-board supplement and/or by mail if you provide an address.

Better two-way communication in "Direct Line" is what it's all about.

Illinois Bell television center director David Dillman watches as cameraman James Meyer films Chicago ARTCC controller Robert Belinke in a simulated loss of air-ground communications.

Marvin Benson (left) and Jack Momper of Illinois Bell act out the problem of a disruption of a critical service line at the Chicago Center for a telephone company training film.



The Importance of Cables

Over the years, FAA controllers have played minor roles in top Hollywood movies, the most notable being "Airport" and "Close Encounters of the Third Kind."

Now, some controllers in the Great Lakes Region have landed starring roles in an important film titled, "Constant Alert." It may sound like another in the long line of disaster films that have been box office smashes, but "Constant Alert" won't be playing at your local neighborhood theaters. In fact, you probably won't get a chance to see it at all.

It was produced by Illinois Bell and AT&T Long Lines in cooperation with the FAA to show telephone company employees throughout the Great Lakes Region how important their jobs are to air safety.

Employees who work for the national network of telephone companies known as TELCO are responsible for installing and maintaining the millions of miles of cable used by FAA air traffic facilities to provide air-to-ground communications, radar coverage and computer services.

FAA is not TELCO's largest customer, but it's definitely one of the most important. And the film is designed to underscore for TELCO employees how even a brief interruption of telephone service can cause a major communications breakdown in the air traffic control system.

The filming was done at O'Hare, other airports throughout the region and at the Chicago en route center. In one simulation, for instance, controllers act out an actual incident in which a controller lost contact with an aircraft on final approach. Another scene shows a controller trying to reestablish communications with an airplane caught in bad weather. Both breakdowns in communications were caused by interruptions in telephone service.

The film shows how communications can be lost by something as simple as an improper or unidentified patch cord, careless use of tools that cause short circuits, wiring errors, cold solder joints or incorrect testing procedures. Another scene shows a telephone cable that was looped above ground instead of being properly buried. The film warns that if that high-capacity carrier cable were cut accidentally or by vandals, the Chicago en route center could lose half of its communications.

In a cameo appearance towards the end of the film, FAA Administrator Bond stresses the importance of TELCO's dedicated service to the safety and efficiency of the air traffic system. No matter how small the job, he said, telephone employees, like air traffic controllers, must be on constant alert.

Story and Photos By Martha L. Ridge

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FEDERAL AVIATION ADMINISTRATION
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Heads Up

ALASKAN REGION

Ernest W. Bates, chief at the Kodiak Tower, from the Fairbanks TRACON . . . **William R. Schmidtman,** chief of the Compensation Branch.

CENTRAL REGION

Claudius W. Cope, chief at the Ottumwa, Iowa, FSS, from the Sidney, Neb., FSS . . . **Thomas R. Hickerson,** chief of the Joplin, Mo., Tower, from the Savannah, Ga., Tower . . . **Dow M. Summers, Jr.,** deputy chief of the Wichita, Kan., FSS, from the Hill City, Kan., FSS.

EASTERN REGION

Richard B. Crofford, manager of the Airway Facilities Sector at Washington National Airport, from the Charleston, W. Va., AF Sector . . . **Joseph Opperman,** chief of the Pittsburgh, Pa., Air Carrier District Office.

GREAT LAKES REGION

Daniel N. Alspach, chief of the Muskegon, Mich., Tower, from the Cleveland, Ohio, Lakefront Tower . . . **William M. Christiansen,** chief of the field office in the Chicago Midway Airport AF Sector, from the Milwaukee, Wis., Sector . . . **Jack E. Mathisen,** chief of the Minneapolis, Minn., General Aviation District Office . . . **Leonard D. Parmley,** chief of the Appleton, Wis., Tower, from the Peoria, Ill., Tower . . . **Joseph F. Petrucci,** chief of the Bloomington, Ind., Tower, from the Appleton, Wis., Tower.

HEADQUARTERS

Ronn E. Harding, chief of the Airspace and Air Traffic Branch, Regulations and Codification Div., Office of the Chief Counsel.

NAFEC

Robert V. Dimeo, chief of the Training Branch, Personnel Management Div., from the Data Engineering and Development Division.

NEW ENGLAND REGION

Ronald L. Ellis, chief of the Windsor Locks, Conn., FSS, from the Bangor, Me., FSS . . . **Robert A. Ferreira,** chief of the Norwood, Mass., Tower, from the Quonset, R.I., Tower . . . **Edward J. Stanton,** deputy chief of the Windsor Locks FSS . . . **Anthony P. Torchia,** chief of the New Haven, Conn., Tower, from the Bangor Tower.

NORTHWEST REGION

Donald J. Payne, chief of the Labor Relations Branch in the Personnel Management Division.

ROCKY MOUNTAIN REGION

Philip W. Skeith, chief of the Aspen, Colo., Tower, from the Plans and Evaluation Branch of the Air Traffic Division . . . **Joseph T. Taber,** deputy chief of the Salt Lake City, Utah, ARTCC, from the Operations, Procedures and Airspace Branch, Air Traffic Division.

SOUTHERN REGION

Daniel A. Barr, an assistant chief at the Gainesville, Fla., FSS, from the Greer, S.C., FSS . . . **James R. Brandon,** an assistant chief at the Fort Myers, Fla., FSS, from the Greer FSS . . . **Teddy W. Burcham,** deputy chief at the Jacksonville ARTCC, from the Evaluation Branch, Air Traffic Division . . . **Meredith O. Clarke,** chief of the Management Engineering Branch, Management Systems Division . . . **Roland H. Crossley,** an assistant chief at the San Juan, Puerto Rico, International FSS, from the Windsor Locks, Conn., FSS . . . **Fred A. Eide,** chief of the Atlanta, Ga., Aeronautical Quality Assurance Field Office, from the Flight Standards Division . . . **John F. Tubbs,** chief of the Albert Whitted Airport Tower in St. Petersburg, Fla., from the West Palm Beach, Fla., Tower . . . **Judson C. Turner,** an assistant chief at the Knoxville, Tenn., FSS, from the Greer, S.C., FSS . . . **Howard D. Warnock,** deputy chief at the West Palm Beach Tower, from the Panama City, Fla., Tower . . . **Robert L. Welch, Jr.,** deputy chief at the Standiford Field Tower in Louisville, Ky., from the Wold-Chamberlain Tower in Minneapolis, Minn.

SOUTHWEST REGION

Charles E. Ricketts, an assistant chief at the Albuquerque, N.M., ARTCC.

WESTERN REGION

Bobby J. Cobb, chief of the Imperial, Calif., Tower, from the Palm Springs, Calif., Tower . . . **Wayne E. Garrison,** chief of the San Francisco ACDO, from the Los Angeles ACDO . . . **Luvell B. Johnson,** an assistant chief at the Los Angeles FSS . . . **Carlton F. Maddox,** an assistant chief at the Santa Barbara, Calif., FSS, from the Las Vegas, Nev., FSS . . . **Thomas T. Watanabe,** an assistant chief at the Oakland, Calif., FSS, from the Santa Barbara FSS.

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February 1980

They Had Another Dream

FAA WORLD

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Langhorne M. Bond
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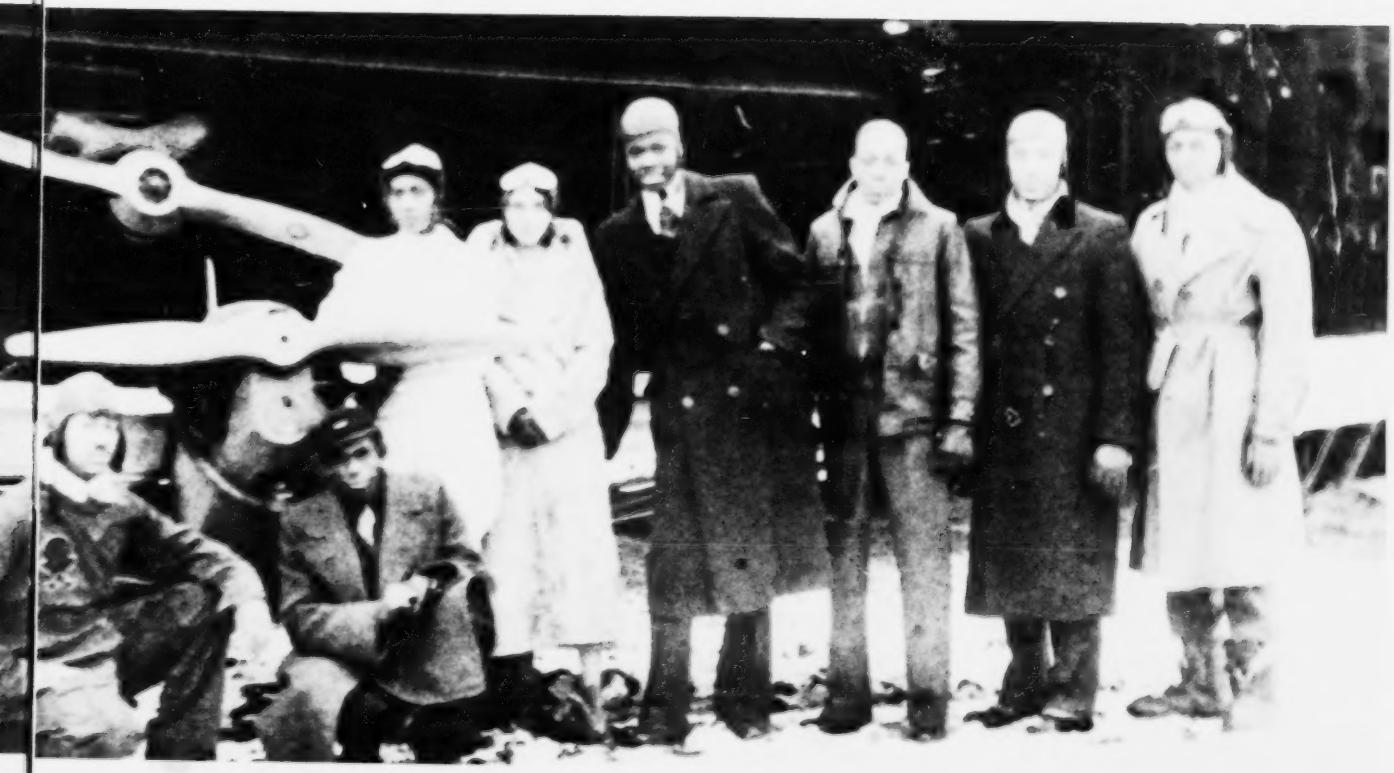
In 1933, John C. Robinson was operating Robbin's Airport south of Chicago, which was an all-black facility and headquarters of the Challenger Aero Club. Two years later he did the first of two stints in Ethiopia's air force and was shot down twice in combat with the Italians.

They Had Another Dream

Blacks Took to the Air Early

By Marjorie Kriz

Aviation, like many another field, has buffeted the ambitions of blacks and women (see FAA WORLD, January 1980). Though progress has been slow, it hasn't been for want of the pioneering



spirit that has led all kinds of Americans to dare the air with sticks and baling wire.

The beginnings of aviation in general are shrouded in poor documentation—more so, blacks' involvement, for in the early days, there were many fliers who built their own planes and were taught to fly by themselves or others. There was no certification and no licenses. There may have been any number of blacks among them. And discrimination against blacks was rife.

We don't know when Eugene Jacque Bullard of Columbus, Ga., learned to fly. We do know he flew in combat with the Lafayette Escadrille in World War I, earning numerous medals and the nickname, "The Black Swallow of Death."

Typical of the confusion was a Department of Commerce Air Service News Letter in 1921 that stated that Bessie Coleman of Chicago had returned from France where she learned to fly and was "said to be the first of her race" to fly. This was amended in 1923 when the publication said she was "probably the only colored *woman* in the world who can pilot an airplane."

"Brave Bessie," as she was known to audiences at her barnstorming thrill shows, was the first black to be licensed by the Federation Aeronautique Internationale, which still is the world's record-keeper for aviation prowess and aircraft performances.

In 1932, U.S. Representative Oscar DePriest of Chicago, the first black to serve in Congress since Reconstruction days, assembled a list of blacks who held aviation licenses. C. Alfred Anderson, known to black aviators everywhere today as "Chief," was the only one listed as holding a transport license. John W. Greene was the sole holder of a limited commercial license, again according to DePriest.

Greene and Cornelius Coffey, of Chicago, then were the only black licensed mechanics, while the private-license list named Hubert F. Julian, who called himself the "Black Eagle," John C. Robinson of Chicago, dubbed the "Brown Condor," and Dr. Albert E. Forsythe. Also holding private licenses at the time were James Herman Banning of Los Angeles, the first black to obtain a license from the Department of Commerce, while Janet Waterford of Chicago had an industrial license, again according to DePriest.

Robinson and Julian both served in Ethiopian Emperor Haile Selassie's air force, with Robinson replacing Julian as the emperor's number one pilot during World War II. Robinson later became an aviation instructor at Curtiss Aeronautical University. Earlier in his career, in the late 1920s, he teamed up with Coffey as a barnstormer and operated the "Col. Johnny Robinson Airlines."

By the late 1930s, a group of blacks in aviation, under the sponsorship of Robert S. Abbott, publisher of the *Chicago Defender* newspaper, toured black colleges and universities to encourage interest in aviation and to urge Congress to include blacks in federally sponsored aviation-training programs. At the suggestion of Enoch P. Waters, Jr., editor of the *Defender*, two pilots, Dale L. White and Chauncey E.

Generally conceded to be the first black woman pilot, Bessie Coleman barnstormed around the country in a pseudo-military uniform until she died in a crash in Florida in 1926.

After serving in the French Foreign Legion in World War I, American Eugene Bullard became a fighter pilot in the Lafayette Escadrille.

Willa Brown was the first black officer in the Civil Air Patrol, before which she was co-operator of the Coffey School of Aeronautics in Chicago and after which she became a member of FAA's Women's Advisory Board.

John C. Robinson, a 1924 graduate of Tuskegee Institute, flew to his tenth reunion in a Buehl Bull Pup, where he was greeted by Capt. A. J. Neeley, dean of men. Robinson operated Robbin's Airport, Chicago, and an airline, was an air force instructor and later became chief pilot for Ethiopian Emperor Haile Selasie's air force toward the end of World War II.

Preceding Robinson as chief pilot in the Ethiopian air force was another Chicagoan, Hubert Fauntleroy Julian (right). Julian was natty in his uniform, but his troops were barefoot.

Cornelius Coffey (right), one of the first blacks to hold both pilot and mechanic licenses from the Department of Commerce, receives his designated mechanic examiner's certificate from CAA/FAA inspector William T. Goulding (left). Others (from left) are aviation teacher John Dorgan, Chicago Vocational High School; and Arthur LaPointe, Chicago superintendent of vocational education.

Among prominent black pilots in the Chicago area were (left to right) William Paris, Cornelius Coffey and Earl Franklin, all of whom flew out of Harlem Airport in the 1930s. Coffey operated an aviation school at the airport and later was an instructor in the Civilian Pilot Training Program (CPTP).

Spencer, flew to Washington to meet with members of Congress who would be instrumental in including blacks in the Civilian Pilot Training Program. On May 9, 1939, Spencer and White took off from Harlem Airport in a rented Lincoln-Page biplane.

While their flight was not without difficulties en route, including a broken crankshaft which grounded them for two days, an accidental meeting with Sen. Harry S. Truman in Washington led to success. At a later meeting, Truman, apparently unaware that blacks were not included in the proposed training program or in the military air services, reportedly said, " . . . if you had guts enough to fly this thing to Washington . . . I've got guts enough to see that you get what you are asking for."

Once the Civilian Pilot Training Program became a reality, there were schools such as Tuskegee Institute, with "Chief" Anderson as head instructor, Hampton Institute and Howard University where blacks could learn to fly. The Coffey school, though not offering degree college programs, was part of the Civilian Pilot Training Program with a full range of courses. It also was the hub of black Civil Air Patrol activity when this program was organized in 1941. Willa Brown was the first black officer in the CAP.

The fact that so few blacks were licensed as pilots and mechanics in the early 1930s does not mean that these were the only ones flying. While the Department of Commerce required licensing, and only for interstate commerce, comparatively small staffs kept the department from reaching everyone. Even the great Emil M. "Matty" Laird, famed pilot and aircraft design/builder who learned to fly at Chicago's Cicero Field in 1913, did not obtain a pilot's license until after 1930, and then only because he was so well known that Commerce put its foot down and made him take the test.

Two transcontinental flights in the early 1930s showed that black pilots could accomplish as much as their white brethren. In 1932, James Banning and his passenger, Thomas Allen, who called themselves the "Flying Hoboes," spanned the country in 41 hours flying time. In 1933, "Chief" Anderson and Dr. Forsythe flew from Atlantic City to Los Angeles and back in Dr. Forsythe's Fairchild 24, "The Pride of Atlantic City."

By 1941, license records showed 102 blacks with private licenses, compared with only 11 in 1932. "Chief" Anderson by then had a commercial license, along with Coffey and Greene, and Earl Renfro, Willa Brown and Grover Nash, all of Chicago, Charles Ashe of Philadelphia

This group photo of Chicago black pilots was taken in 1935 prior to a memorial flight over the grave of Bessie Coleman, who had crashed nine years earlier. Among them are Willa Brown and Janet Waterford (second and third from left, second row), Cornelius Coffey (left, third row) and lobbyist-flier Dale White (right, third row), who helped include blacks in the Civilian Pilot Training Program.

Representative of the inroads being made in the higher echelons of aviation today are these United Airlines pilots and executives.

and Robert Terry of Basking Ridge, N.J. Coffey and Renfro also had qualified as flight instructors, giving lessons at Harlem Airport, Chicago, where Coffey and Brown operated the Coffey School of Aeronautics. The school graduated a number of white students as well as numerous blacks.

Black pilots who saw action excelled during World War II combat, though they were assigned to segregated units. It was Truman, as President, who ordered integration of the armed forces in 1948 and ended segregation.

After the war, black pilots continued to fly and black instructors taught more. By the second half of the century, they were in every form of aviation: civilian, military, the government, the airlines. Willa Brown became a member of FAA's Women's Advisory Board. The Air Force had a number of high-ranking black officers.

Because of the prominence of so many Chicago blacks in early aviation, the Great Lakes Region's public affairs office became interested in their successes and developed a photo display of black pilots, their aircraft and the airports where they operated most frequently. The display was exhibited in the fall of 1979 at the National Air and Space Museum as part of the Negro Airmen International ceremony honoring pioneer black aviators.

The exhibit has been duplicated and currently is on tour. This month, Black History Month, it is to be displayed at the Chicago Public Library's Woodson Regional Library, repository for black history material, and at one of the city's largest black banks, as it was found that Chicago blacks also were mostly unaware of their pioneer aviation heritage and were interested in learning about it.

Many of the photographs and much of the biographical material was obtained through Rufus Hunt, general maintenance mechanic at the Chicago Center, who has had a long-time interest in black aviation history.

It's been a long road, and there's still a way to go, but the doors have been opening throughout the aviation industry.

WORD SEARCH

By Barbara Hinton
EEO Specialist, Washington, D.C.

This month's puzzle is in commemoration of Black History Month, during which we remember the role of Black Americans in American history and the development of the nation.

The last names and organization abreviations read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The words may overlap, and letters may be used more than once.

Use the word list if you must, but try covering it first. All 62 can be found. Circle those you do find and cross them off the list. The name Jill "Brown" has been circled to get you started. When you give up, the answers may be found on page 17.

C J S E K C U T R E H C T A H F D P Q N R M N
Z H M R N O D S E N O L A M B I A S P O W A A
Q O I J E U E B V R S C L C G K V K C T D R D
S Z T S B Y H K A E H S A G I H I O A G E S R
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Y R A H Y D I X S T Y L S G P T B F S U J K L
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E D U L C I E S R I R P N S E U C E J W N U I
A N N Z C N O A N A W O R Q S A O X M A P B W
G S C F M N B S P Z B N M J J E L H A R R I S
E U H E P U S H Q Y S S E L P R E D L E O J Z
M L E I N A D C M Y E L D A R B S M U L L E D

MUHAMMAD ALI
MARIAN ANDERSON
ARTHUR ASHE
JAMES BALDWIN
BENJAMIN BANNEKER
AMIRI BARAKA
MARION BARRY
COUNT BASIE
MARY McLEOD BETHUNE
JULIAN BOND
DOUGLAS BOULWARE
THOMAS BRADLEY
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JILL BROWN
GUION BUFORD
RALPH BUNCHE
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NAT KING COLE
JOHN CONYERS
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RONALD DELLUMS
CHARLES DIGGS
FREDERICK DOUGLASS
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MEDGAR EVERS
ALTHEA GIBSON
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MARY LOU WILLIAMS
ANDREW YOUNG

FULL MOON OVER MIAMI . . . We're not even going to mention the title of the book. I mean the book sounds that bad. Nor are we going to identify the author except to say that his last book was about a drunken airline pilot. But just in case the subject should come up at a cocktail party, you ought to know that there's a new book out this month about an air traffic controller who flips his wig in the Miami tower and . . . well, here's how *Publisher's Weekly* summarizes the plot:

"As a Concorde jet nears Miami International, all is in turmoil on the ground, the chief problem being an air controller run amok. A veteran of 20 years. Harry Boyle has just been fired. He retaliates by attacking the tower and holding his ex-boss Jeff Sutton and the Secretary of Transportation hostage. (Sutton also has a beef against the system, CORAD, which the FAA sees as a computerized miracle.) The next crisis occurs when a small plane impales itself on the nose of the SST. Thus the captives must neutralize Boyle before Sutton, now very much in command, relies on instinctual, seat-of-the-pants methods to save the day."

Anyone out there still believe that truth is stranger than fiction?

GOING IN STYLE . . . *U.S. News & World Report* recently listed the latest status symbols in key cities around the country—telling what's "in" and what's "out"—and we thought we'd repeat a few as a service to FAA employees. After all, this kind of information could play a critical role in deciding whether one should or shouldn't bid on a job in these locations. Here goes: rebuilt pickup trucks are in and big luxury cars are out in Atlanta; snow blowers are in and suntans are out in Chicago; hot tubs are in and motor-home vacations are out in Detroit; California wines are in and imported fizz water is out in Houston; roller skating is in and promiscuity is out in Los Angeles; divorce is in and marriage is out in San Francisco; and chewing tobacco is in and cigars are out in Washington, D.C. The editors of "Small World" assume that their counterparts at *U.S. News* had their tongues in their cheeks when they put this list together. I mean, promiscuity out in Los Angeles!

NO PARKING AT ANY TIME . . . Think you got problems? Well, there's an FAA employee in New York who has been accused of owing the city $102,000 in unpaid parking tickets dating back to 1975. The accused FAAer contends it's all a horrible computer error, and we certainly hope he's right. If not, the city says it will garnishee 10 percent of his wages. Someone has computed that it would take the FAAer 65 years to pay off his debt at that rate.

'The Best Way To Promote Aviation Is To Promote Safety'

By Nick Komons

"Isn't FAA's mission to foster civil aeronautics incompatible with its responsibility to ensure aviation safety?" a young man asked Najeeb E. Halaby at a recent aviation symposium.

The former FAA Administrator replied that the agency may have been wrong to promote the development of a supersonic transport—but he left the larger implications of the question unanswered.

Najeeb E. Halaby

Others are less reluctant.

Many critics of the FAA are quick to contend that the dual responsibility of ensuring safety and fostering aviation has bred an all-too-cozy relationship between the regulator and the regulated. One such critic, Ralph Nader, charges that FAA weighs "human safety against corporate profits" and too often comes down in favor of profits.

Over the years, similar charges have often surfaced in the wake of major air disasters. The present controversy over FAA's dual mandate stems directly from the Chicago crash last May of an American Airlines DC-10 and the subsequent grounding of all DC-10s by FAA.

If an air transport had crashed under similar circumstances 50 years ago, it is doubtful that anyone would have thought to question the efficacy of the agency's mission. Indeed, the framers of the Air Commerce Act of 1926, the first Federal statute regulating civil aviation, saw nothing incompatible in a single agency both regulating and fostering the same industry.

"The purpose of this bill is not so much to regulate as to promote [aviation]," declared Hiram Bingham, the Senate sponsor of the Air Commerce Act. The National Advisory Committee on Aeronautics, a strong supporter of Federal legislation regulating air commerce, agreed with Bingham and went a step further, suggesting that the encouragement of civil aviation *should be* the primary purpose of the act; providing reasonable and needful regulation was only "an incident to that encouragement."

The idea, then, was to foster aviation. This is why the responsibilities under the Air Commerce Act were given to the Secretary of Commerce; he would promote air commerce just as he promoted other economic activities.

In those days, the U.S. Air Mail Service carried out almost all organized civil flying. The major reason commercial aviation had failed to take root was its atrocious safety record, which was due almost entirely to the absence of a central authority regulating its activities.

"Uniform regulation of aeronautics . . . is not only desirable but absolutely indispensable to the effective development of aerial transportation as an instrumentality of interstate commerce," declared William P. MacCracken, Jr., a principal draftsman of the Air Commerce Act.

Hence, though it was the manifest intent of the Air Commerce Act to foster civil aeronautics, the act's framers realized that aviation would never

"The purpose of [the Air Commerce Act] is not so much to regulate as to promote [aviation]."

prosper if the Federal Government did not ensure its safety.

With the passage of time, the aviation mandate of the Secretary of Commerce underwent subtle changes. It was all well and good to keep the industry's economic health uppermost in one's mind when aviation was young and struggling and a heavy-handed regulator could deal the industry a fatal blow; it was something else again, after the industry was on a firm economic footing and was transporting hundreds of thousands of paying customers, to talk of providing "a maximum of encouragement with a minimum of regulation." For one thing, the public and the Congress would not have stood for it; for another, it was recognized by all--the air transport industry included--that maintaining a high standard of safety was itself the surest means of promoting the industry's interests.

Thus, by the time the Air Commerce Act had run its course, in 1938, the Secretary of Commerce was primarily a regulator, not a promoter, of civil aviation. It is testimony to this changing emphasis that a concern for safety was partly responsible for the enactment of the Civil Aeronautics Act of 1938 and wholly responsible for the Federal Aviation Act of 1958. At the same time,

Alexander P. Butterfield

recognizing the economic benefits of a healthy civil aviation industry, Congress kept the responsibility to foster civil aeronautics in both laws.

Has the responsibility to foster aviation, as critics charge, worked at cross-purposes with the responsibility to ensure air safety?

There is no easy, clear-cut, or definitive answer. Certainly the FAA and its predecessor agencies have been solicitous of the industry's economic welfare; this was their responsibility under the law. And certainly this dual responsibility has made FAA's task more delicate and more difficult.

"This does, in fact, cause dilemmas when a regulatory body such as the FAA has another almost equal responsibility to keep the industry active and alive and well," explained former FAA Administrator Alexander P. Butterfield in

In 1926 when the Air Commerce Act was passed, almost all civil aviation was the province of the Post Office Department.

1974. But government administration is full of dilemmas. The important thing is which choices are made to resolve these dilemmas.

Critics charge that FAA has indeed been making the wrong choices. According to a former Federal aviation-safety expert, the responsibility to foster aviation causes FAA officials to pull in "their fangs a bit. . . ." John J. O'Donnell, president of the Air Line Pilots Association, is more critical. "The FAA . . . conducts its business with manufacturers behind closed doors," he charged in June 1979, "[and] attempts to balance safety against short-term economic factors."

Nor has Congress been silent. "I wonder if the FAA is not exercising more concern . . . for manufacturers than they are for safety," Congressman J. J. Pickle has speculated. Another Congressman, Toby Moffett, has charged FAA with placing "too great an emphasis on the economic health of the airline industry to the detriment of passenger safety." The "real trouble" with FAA, according to Congressman John L. Burton, is the Federal Aviation Act, "which [tells the FAA Administrator] to do two contradictory things: to protect the public safety and promote commerce in aviation." Burton was echoing a 1974 House report, which detected "a tendency within the agency to view [its fostering and safety] responsibilities as if they were competing interests to be balanced off against each other."

For its part, FAA admits to no inherent conflict in its dual mission. "We view the two functions as complementary," declared former FAA Deputy Administrator James E. Dow. "You can't foster or promote, which is to say sell, a product, unless you've got a safe product." The current FAA Administrator, Langhorne Bond, put the matter more succinctly: "The best way to promote aviation is to promote safety."

James E. Dow

Airline operators and aircraft manufacturers would be the first to agree. They promote safety because it is good for business. They may resist a new procedure or a new device until its utility and performance has been demonstrated, but they would be foolish to urge safety compromises on FAA for mere short-term gain. "No matter what people might imagine about an FAA-industry relationship," one airline official said in 1974, "they must realize that we would be insane to compromise safety to save money."

So much for the pros and cons. Now let's take a look at how Federal aviation officials have met their dual responsibilities.

The first Federal aviation official charged with putting the interests of the industry before those of the public was

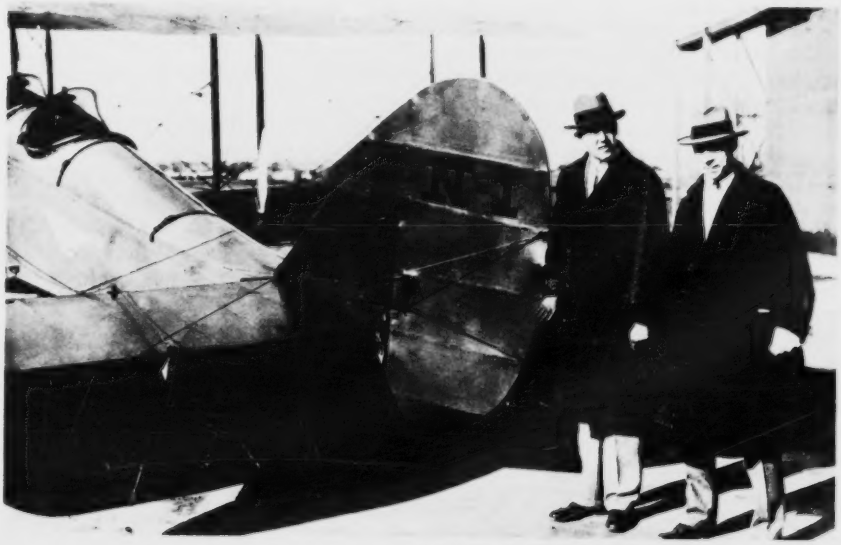
An operational limitation rather than grounding was all that was needed to make the Lockheed Electra safe to fly in the 1950s.

Photo courtesy of Eastern Airlines

Clarence M. Young, Assistant Secretary of Commerce for Aeronautics from 1929 to 1933. Among Young's responsibilities was "to investigate, record and make public the causes of accidents in civil air navigation . . ." Because the Air Commerce Act didn't bar the use of accident reports in legal proceedings, Young believed that it would hurt the industry if the Department of Commerce reported details of major air-carrier accidents. Instead, he issued periodic accident statistics.

This practice went unquestioned until a U.S. Senator became interested in an air-transport accident that had occurred in his home state and asked Young for a full accounting of its causes. Young refused. It took a Senate resolution to pry the report loose from him. This scenario was repeated a few months later following another air crash, leaving the prospect of a tug of war erupting between the Senate and the Department of Commerce every time an air transport met with disaster.

To the charge that he was disregarding the public's right of access to Federal accident reports, Young answered that the "purpose of the Air Commerce Act was to foster aviation, and the sole purpose in investigating accidents is to determine the causes and promote aviation by what we learn." The public release of accident reports, he feared, could lead to suits so damaging that airlines might be put out of business.



William P. MacCracken, Jr. (left), first Assistant Secretary of Commerce for Aeronautics, and his deputy, Clarence M. Young, later to hold MacCracken's position.

Was Young overly solicitous for the welfare of the air carriers? Perhaps. On the other hand, he did have a point. And he did express a willingness to release accident reports as a matter of course once the Congress barred their use in court. Moreover, Young's position in this matter was no fair measure of his firmness in safety matters. For Young was also the first Federal official to ground a fleet of aircraft: The Fokker F-10s.

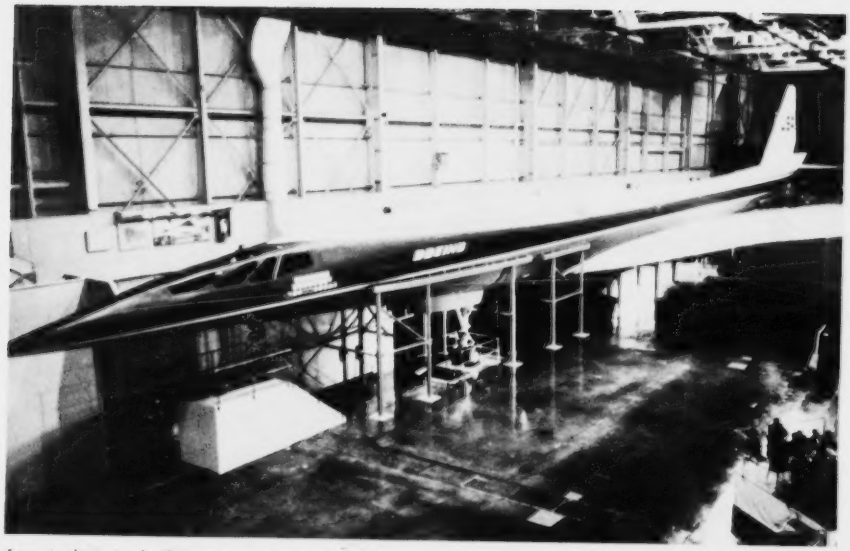
The grounding destroyed airline confidence in the Fokker aircraft and finally drove it from the skies; it also led to the demise of the Fokker Aircraft Company, then a division of General Motors. Young could be protective of the industry; but when safety was an overriding issue, he could act with firmness, the economic consequences to the industry notwithstanding.

No FAA Administrator had a greater reputation for toughness than Elwood R.

Quesada. The reputation was well deserved. Taking command of a Federal civil-aviation establishment that many believed was soft and lax, he transformed it into a stern, uncompromising enforcer. No segment of aviation was spared. Quesada cracked his whip so often that FAA was nearly overwhelmed processing disciplinary actions.

Yet even he was not immune from the charge of playing fast and loose with safety in order to further the industry's financial interests. That charge was made in the aftermath of a series of accidents involving the Lockheed Electra, which, it was determined, suffered from serious structural defects. Despite calls to ground the aircraft, Quesada stubbornly maintained that the Electra could be flown safely at reduced speeds until the defect was corrected. Time proved Quesada right.

Quesada was also a vigorous promoter of civil aviation. He was the first Federal official to suggest that the Federal Government launch a civil supersonic transport development program so that the United States could maintain its "supremacy as a producer of . . . civil transport aircraft. . . ." He predicted "hysteria" and other dire consequences if the Soviet Union beat the United States into the air with an SST. And he insisted that FAA, because of its mandate to foster civil aeronautics, run the program. Quesada demonstrated, then, that an FAA Administrator can be both a tough regulator and an aggressive promoter of aviation.



America's entry in the supersonic transport race was to have been a Boeing design, here shown in mockup, but escalating costs and growing inflation killed the project.

Elwood R. Quesada (right)

This is not to suggest that an FAA Administrator can always demand, in the words of the Federal Aviation Act, "the highest possible degree of safety." Of course, he must deal with an overriding safety issue, even if it means grounding the entire U.S. air carrier fleet; but he nevertheless cannot interpret these words literally in every instance. It simply isn't feasible.

"We can't afford to take any action that would cut the pins out from under any segment of aviation," Alexander Butterfield said in 1974. "If we shoot from the hip, if we go out with a rule, precipitously, . . . without looking very closely at the implications, the ramifications from every angle, then we're remiss," he said on another occasion. "I think we have an obligation to [weigh the implications of a rule], because once that rule is imposed, it's going to affect an awful lot of people."

John L. McLucas

Eugene L. Vidal

"You've got to reach some kind of balance between perfect safety and economic viability."

What Butterfield was driving at was that the aviation industry, like other industries, is and should be self-supporting. It would be self-defeating if FAA drove the industry out of business or greatly compromised its ability to make money. "You've got to reach some kind of balance between perfect safety and economic viability," former FAA Administrator John L. McLucas said. "People that I've talked to about this don't like to hear me say it. It's much easier to say to consumer groups that perfect safety is the objective. Well, I don't think it is. It has to be economically viable, too."

Economic considerations, then, as well as differences in aircraft performance, size and operational use, play a part in determining standards. In consequence, one standard of safety cannot be set for all flying activities. "Well, the standard of safety . . . applied in air-carrier [operations] is very, very high," Langhorne Bond said in a recent interview. "The standard of safety that we apply for general aviation is less high. . . ."

FAA prescribes the highest standards for certificated route air carriers, not only because the vast majority of revenue passengers are carried in scheduled domestic and foreign air service but also because these lines can afford the highest standards and still maintain a profitable operation.

This was not always the case. In the late 1920s and early 1930s, when the Ford Trimotors and the Fokker F-10s were the workhorses on scheduled routes, it was simply not realistic to prescribe the highest attainable operating standards. The Department of Commerce had determined that these trimotors required two transport-rated pilots for optimum safety. The trouble was that these transports, which could accommodate no more than 10 to 12 passengers, had a ridiculously high ratio of crewmembers to passengers.

"Now then," pointed out an airline

Promotional Programs a Mixed Bag

As promoters of civil aeronautics, FAA and its predecessor agencies have run many successful small or low-budget programs. Such undertakings as civilian pilot training (a New Deal program), technical assistance, accident prevention and securing worldwide acceptance of U.S. aeronautical products and standards have, almost without exception, borne fruit.

Except for Federal aid to airports, though, larger and more ambitious programs have failed, particularly when they tampered with the marketplace.

In the middle of the Great Depression, Eugene L. Vidal, the Director of Air Commerce, anxious to pull the sagging U.S. aircraft manufacturing industry out of its economic doldrums, got the idea of promoting the development of an inexpensive general-aviation airplane. The Department of Commerce would subsidize the manufacturers' tooling-up costs, so that the plane could be sold for $700. Aircraft manufacturers, caught with a large inventory of higher-priced aircraft, were not exactly enamored of the idea. Potential aircraft buyers, they protested, would put off purchases in anticipation of Vidal's flying flivver. After months of debate, Vidal gave up the project, earning in the process the enmity of the very people he had wanted to help.

The development of a civil supersonic transport easily qualifies as the most ambitious promotional program ever undertaken by FAA or any of its predecessors. It also qualifies as the most costly financial disaster in FAA's history. The program, begun with much fanfare in 1963, was killed by Congress eight years later after a Federal investment of $860 million. Subsequent termination costs pushed up the taxpayers' losses to over a billion dollars.

FAA—and, indeed, the Federal establishment—found compelling reasons for undertaking the development of an SST. In an age that had a near-absolute faith in the efficacy of technology, traveling at supersonic speeds was seen as the wave of the future in air-passenger transportation. Hence, if the United States hoped to remain the leader in the manufacture of commercial aircraft, developing an SST appeared to be a necessity. But because the venture entailed a lengthy development phase, an enormous outlay of risk capital and an extraordinarily long period between initial investment and initial return on equity, the program was beyond the means of the industry to undertake without Federal assistance.

The program's rationale was valid enough in 1963. By the late 1960s and early 1970s, however, with inflation on a rampage, with race riots manifesting long-neglected social and economic ills, and with the nation mired in a costly, unpopular war, financing the development of a gold-plated airliner appeared to many people as a clear case of misplaced priorities. When, on top of this, serious environmental questions were raised about the aircraft, the program's political base collapsed, just as the airframe manufacturer was preparing to cut metal for a prototype.

Meanwhile, the U.S. aircraft industry is managing quite nicely without an SST, taking orders for new, more-efficient subsonic jet transports at a record pace, while its British and French counterparts, who went ahead with the production of a supersonic transport, are counting their losses.

"It's much easier to say to consumer groups that perfect safety is the objective. Well, I don't think it is."

operator, "with a pilot, co-pilot, courier (or steward) and, lastly, a radio operator, the result is an economic absurdity." And, indeed, it was. Even with a full passenger load and a reduced crew complement, the trimotors could not make money without carrying mail. To burden the lines with a crew large enough to ensure optimum safety would have forced many an operator to abandon passenger service. Clarence Young bowed to the economic realities of the situation by requiring the copilot to hold only a limited commercial license. Moreover, any crewmember could serve as radio operator, and the copilot could double as steward.

A couple of years later, however, when instrument flying became widespread on air-passenger routes and the first of the modern airliners were introduced, Young stiffened crewmember requirements. Higher operating standards were more necessary now because of the greater complexity of instrument flying; they were also economically more feasible because the new Boeing 247s and Douglas DC-2s were more efficient passenger carriers than the trimotors. The new rules, moreover, applied to the new airliners and the old trimotors alike, helping speed up the transition to the more reliable 247s and DC-2s.

FAA recently faced a somewhat similar situation with the commuter airline industry. Commuter airlines have grown spectacularly in recent years, and their services will be in even greater demand as they move into low-density routes abandoned by certificated carriers because of economic deregulation.

FAA made a key decision in the course of updating the rules governing the commuter industry. It decided that requiring the commuters to operate under Part 121 of the Federal Aviation Regulations, which covers the operations of trunk and regional air carriers, did not make sense. If, as a commuter industry spokesman pointed out, commuters have to bear the cost for "training, the management structure and personnel" required under Part 121, they, like the certificated carriers, would abandon low-density routes, leaving a host of communities to make do without scheduled air transportation.

Hence, under a new rule, commuters operating aircraft with 30-or-fewer passenger seats would be governed by a revised Part 135. To be sure, it is a strengthened Part 135, which, considering the size and complexity of commuter operations, offers a level of safety "substantially similar" to that enjoyed by air carriers; but, nevertheless, it is less demanding and less costly in its requirements than Part 121.

A case can be made that this sort of thing should not go on. Some people have trouble coming to terms with a practice or policy that subjects safety to

The Fokker F-10 had the dubious distinction of being the first aircraft whose entire U.S. fleet was grounded, as a result of the crash that killed football coach Knute Rockne in 1930.

Langhorne M. Bond

an economic test and, by implication, places a dollar value on human life. They want to be guaranteed precisely the same high level of safety, whether they climb aboard a trunk line, a supplemental or a commuter. It's a legitimate-enough demand, and yet it should be recognized that it carries with it unpleasant social and economic ramifications.

Would these same people apply the same yardstick of safety to all of transportation? They get into boats, buses, trains and automobiles daily and don't demand the same level of safety as they enjoy when flying in scheduled air-carrier service. It would be absurd to demand it.

It's probably within the state of the art to manufacture a taxicab that could sustain a head-on collision at 60 mph with no serious injury to its occupants. But who would pay the fare for the privilege of riding in such a costly vehicle? It would make as much economic sense to equip a taxicab company exclusively with Rolls Royces.

By the same token, who would pay the fare on a 20-seat commuter airliner that possessed the same capability and the same redundancy and was operated under the same rules as a 300-seat Boeing 747? The market simply won't allow a uniform standard of safety for all types of air travel.

But the basic question—whether you apply the highest attainable safety standards across the board or allow economic forces to determine those standards in part—is still not answered. And it's likely that it won't ever be answered in any definitive way. Rather, it will be debated in the political arena by the public, consumer groups, government officials and legislators, for it is ultimately a national policy question whose answer depends not only on an evolving technology and changing economic conditions but also on changing public attitudes, perceptions and aspirations.

This much can be said for the present: It was the clear intent of the framers of the Federal Aviation Act that safety standards be tempered by economic realities. The Administrative Procedure Act and Executive Order 11821 carry the same intent. As FAA Administrator Bond pointed out recently, "The Congress has been clear in recent years . . . that all of the regulatory agencies should say, 'What good does it do?' when you make a regulation and 'What does it cost?' "

Meanwhile, if a critic needs comfort, he can take a hard look at the U.S. safety record. In the 10-year period of 1968-77, air transports operated by certificated air carriers were airborne 61 million hours and experienced 70 fatal accidents. Hence, if the law of averages is with you, you can expect to log 863,280 hours—or 99 years—on a certificated carrier before meeting with tragedy. And while these figures don't prove by any stretch of the imagination that FAA is perfect, they do tend to weaken the argument that the agency cannot carry out its dual mission and still deliver safety.

Nevertheless, Congress might still decide one of these days to give FAA's promotional mission to another agency. Indeed, some feel that the aviation industry is strong enough and prosperous enough to do without the fostering hand of the Federal Government. "We do not think the government should be promoting aviation anymore," one Congressman said recently.

Even if this view prevails, however, the problem still will not go away.

Air-transport manufacturers, general-

aviation-aircraft manufacturers, certificated air carriers, commuter airlines, air taxis, business and industrial aircraft operators, airline pilots, flight attendants and pleasure fliers are all well organized and well financed. As a result, an FAA Administrator will always be subject to severe pressures, whether or not he has a mandate to foster civil aeronautics. He will be caught between those who stress the need for additional safety devices and those who say that aviation is already overburdened with such devices.

Many of these critics will have an ax to grind. "Let's not kid ourselves . . .," said Alexander Butterfield. "The manufacturer [of safety devices] wants to sell the product, and the airlines are going to be loath to spend the money unless it is absolutely needed." Pete Quesada related how he sometimes found it difficult to remember that he was a "public servant and not an industry servant"—not because of his responsibility to foster aviation, but because of the intense pressures exerted on him by well-organized aviation interest groups.

And any FAA Administrator will find, as Quesada did, that no course will please all users. He will find, moreover, no infallible yardstick to help him decide which black box ought to be installed on all aircraft and which is too expensive, unnecessary or disadvantageous. "The only way to decide is to insure that all points of view have been heard and then apply the best tests of reasonableness which we can devise for each case," John McLucas said.

Even then, the Administrator will still be charged with favoring one segment of the industry over another, with saddling the industry with unreasonable rules or unnecessary safety devices or with compromising safety out of a solicitousness for the industry's economic welfare.

No change in the laws can prevent this—unless it is a change in the laws of human nature.

Correction

In "A Heroic Quartet" (FAA WORLD, December 1979) about the presentation of Department of Transportation Awards for Valor, regional identifications of the award recipients were transposed. Ronald I. Fedchenko and Dale R. Colt are electronics technicians from the New England Region and Paul A. Palmer is a data systems specialist from the Eastern Region. Controller Donald R. Gottman was correctly identified as from the Great Lakes Region.

Donald R. Gottman

Ronald I. Fedchenko

Paul A. Palmer

History for Sale

The third volume of the four-part history of FAA and its predecessor agencies, "Turbulence Aloft: The Civil Aeronautics Administration Amid Wars and Rumors of Wars, 1938-1953" by John R. M. Wilson, is now available in a hard cover edition. Originally published in 1979 in a soft cover (Stock No. 050-007-00486-9) at $6.00 a copy, "Turbulence Aloft" can be ordered in a hard cover (Stock No. 050-007-00496-6) for $8.50 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

More Power to People-Power

It's certainly not everybody's shtick, but an FAA family near Fresno, Calif., has found one way to beat the gasoline shortage and have fun and exercise at the same time.

Gerald Beardsley, an air traffic controller at the Fresno Air Terminal, and his wife, Toni, drive a yellow and white, fiberglass three-wheeler they have affectionately dubbed their "People-Powered Vehicle."

They have pedaled their PPV around town for two years, frequently using it to transport their two boys, Gerry and Tony, to activities and visit near-by shopping centers and relatives.

Their only required stop enroute is an occasional visit to a gas station—for air for their tires. In addition to an energy saver, the vehicle is a frustration reliever, as they pedal unconcernedly past closed gas stations with smiles on their faces.

The PPV has adjustable plastic seats for two people, both of whom propel the vehicle with pedals up to 38-40 mph. The Beardsleys find a comfortable 15-18 mph more to their liking. Obviously—and fortunately for them—the Beardsleys do not live in hilly country, but in Clovis, a small flatland community outside Fresno.

Demonstrating that the PPV is here to stay in the Beardsley family, Gerry has spruced it up further by adding a speedometer and a motorcycle battery that powers a radio and head- and taillights.

"Most motorists slow and stare or yell 'all right!' as they pass," notes Beardsley, but the only challenge to the idea, he adds, comes from the canine population. Large dogs, particularly, pose a hazard when they threaten at eye level.

The Beardsleys find their PPV fun, convenient, a good source of exercise and a fuel-saver. But aviation has nothing to look forward to in people-power. Save for the solo Gossamer Albatross, a PPV won't get off the ground.

By Barbara Abels

Word Search Answer

puzzle on page 7

C J S E K C U T R E H C T A H F D P Q N R M N
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DIRECT LINE

No one here seems to know the answer to this question even though it comes up in conversation frequently. Is there a foreign affairs regulation or any regulation that states that FAA personnel in an overseas post (in this case, Frankfurt, Germany) must spend a minimum of 20 working days in the United States while on home leave? If so, isn't this a violation of freedom of choice in the use of their annual leave, because they don't accrue enough home leave to cover this period? Home leave is accrued at the rate of five days a year, so at the end of a tour when home leave must be taken, only 10 days have accrued, and 10 days of annual leave have to be added.

Home leave is additional leave earned under the Leave Act by employees serving abroad and must be used in the United States, its possessions or in the Commonwealth of Puerto Rico. Its purpose is to provide employees with an opportunity to return to the United States after a tour of duty abroad to become reacquainted with day-to-day life in this country and to reinforce American ideals and customs. Order 3600.4, Change 7, dated May 15, 1972, Para. 23, provides guidelines for the use of home leave. When home-leave travel expenses are paid by the government, a minimum of 20 workdays, including, if necessary, annual leave, shall be taken. This is supported by the Department of State Foreign Affairs Manual, Volume 3, Para. 454,1-2: Personnel in a foreign area must spend a minimum of 20 working days on home leave in the locations cited. The rate of accrual of home leave varies, however, according to the nature of the duty post. In Southeast Asia, for example, 15 days a year are accrued. The FAA Act of 1958, Section 303, gives FAA the authority for payment of allowances and other benefits to employees stationed in foreign countries to the same extent as authorized for members of the foreign service of comparable grade. Since home leave is one of these benefits, we comply with the Department of State regulations, which allow the employer to order to the United States, etc., on statutory leave of absence any employee, upon completion of 18 months continuous service abroad and as soon as possible after completion of three years of such service.

What is the regulation that permits Airway Facilities sector managers and Air Traffic facility chiefs to take their non-government-employee spouses on GSA travel in government vehicles? What is the government's liability to the passenger in case of an accident?

The regulation permitting the taking of non-government-employee spouses on travel in government vehicles is covered in FAA Motor Vehicle Management Handbook, Chapter 3, paragraph 11, Note. It provides for the transport of dependents of employees in a travel status when properly authorized in writing. When non-government persons are passengers, the government may be liable in certain instances. The Federal Tort Claims Act (FTCA) provides a remedy for injury or loss of property or death that results from the operation of a vehicle by any employee of the government while acting within the scope of his employment. Liability under the Act is determined according to the law of the state in which the accident occurred. For this reason, no fixed general rule of law can be prescribed. In the event of an accident, an injured passenger could sue the government. The individual employee driver could not be sued himself. Under the FTCA, as long as a vehicle is used for official government business, it is only the government that may be sued. Only if an employee uses a government vehicle for personal use or for non-official business could he or she be held liable in the event of an accident.

My question concerns a possible discrepancy between verbal instructions and Handbook 7110.65A, Section 5, "Altitude Verification and Position"—Para. 250A, "Altitude Verification Non-automatic Altitude Reporting." This states, "Request a pilot to verify altitude on initial contact and when position reports are received, unless . . . Terminal: the aircraft was intra-facility transferred to your control." On a recent annual inspection by the region, we were told that the approach controller shall verify assigned altitudes of all departures from our airport. The local controller issues the clearances with altitudes and transfers the departure to the approach controller. At that time, even though the two positions are only three feet apart, the approach controller must verify the departure's altitude. This appears to be in direct conflict with the procedure in the handbook.

As originally used, the phrase "intra-facility" was intended to apply between control positions in a common instrument flight rules (IFR) area of operation (e.g.: sector-to-sector, departure-arrival). It was not intended to apply between tower cab and approach-departure positions, even where those functions are administratively/operationally combined under a "one facility" configuration, such as a TRACON or TRACAB. We agree that the literal interpretation of "intrafacility" does not coincide with the verbal interpretation correctly given by your region. A handbook change to the subject paragraph is being formulated to correctly specify verification requirements.

Recently, a pilot filed a VFR flight plan with this facility and upon completion of the flight he failed to close the flight plan. This is a common occurrence, as any flight service specialist will attest. The specialist involved covered the procedures prescribed in such a case. After much time and effort in INREQ,

ALNOT and search-and-rescue efforts, which included getting people out of bed to check airports, the aircraft was located at its home base, and the pilot was home in bed. The specialist asked if something could be done to discipline the pilot because of the unnecessary work he had created and his being in violation of FAR 91.83 (D). He was told that the pilot's failure to close his flight plan was irrelevant and nothing could be done about it. In other words, pilots who fail to close VFR flight plans can thumb their noses at the FAA.

Pilots who fail to close a VFR flight plan are in violation of the FAR, and the facility chief has the responsibility to notify Flight Standards of such incidents on FAA Form 8020-11, Incident Report. If the incident is inadvertent or a first offense, administrative action in the form of a Warning Notice or Letter of Correction is usually warranted. Handbook 8030.7A, Para. 111, Sept. 16, 1975, states that a Warning Notice will be issued when all of the following elements are present: (1) No significant unsafe condition existed. (2) Lack of competency or qualification was not involved. (3) The violation was not deliberate. (4) The alleged violator has a constructive attitude toward complying with the regulations. Legal action will be taken in all cases that do not meet all of the criteria for administrative actions. Incidents involving individuals with substantial experience or deliberate or reckless or repeat violations should be treated with the full force of the law. Procedural action guidelines are found in Order 1000.9C, April 26, 1979, Enforcement Policy.

Last May, I was selected for a supervisory position as an SATCS GS-2152-12. My previous grade was GS-13, Step 6. Under the Civil Service Reform Act and Office of Personnel Management, what will my save-pay or pay-retention status be? Will I be eligible for within-grade increases and comparability pay? For how long will I be eligible? What should my current base pay be? My regional personnel people aren't sure of the interpretation of the rules.

The type of career-progression demotion action you have described would appear to meet the criteria for pay retention which were in effect last year. Since your existing rate of pay at the time of your demotion exceeded the rate of pay for the top step of the GS-12 grade to which you were demoted, you should have been placed in a pay-retention status. While in this status, you will receive one-half of the annual comparability raise for the top step of GS-12 until such time as your retained rate of pay is equalled or exceeded by the rate of pay for the top step of GS-12. At that time, your pay retention will cease and you will be paid at the top step of GS-12 and will get the full pay-comparability increase for all future years. You will not be eligible for within-grade increases because your rate of pay while on pay retention is beyond the top step of your grade. Your annual salary, including one-half of the October 1979 comparability increase, should be $33,075 as of January 1980. The answer to any other questions which you may have on this subject can probably be found in Order 3550.11, Grade and Pay Retention Under the Civil Service Reform Act.

I would like answers and published references to the following questions to end pilot-controller and controller-controller misunderstandings. *Control Zones*: When are they in effect—as indicated on VFR sectionals, at the times listed or continuously or only when the weather is reported as IFR at the controlling facility? Therefore, when must a VFR pilot request clearance through a depicted control zone? *Control Zone Extensions*: Some of the extensions from the five-mile radius do not appear to protect parts of the published approaches for that airport (procedure turns or missed approach). What is the source to satisfy the curiosity of why they are there? *Overflights*: The facility provides service to helicopters' landing and departing points within the airport traffic area control zone, not at or to or from the airport. A count is taken for an instrument operation during Special VFR, but no count is taken for the same operation VFR nor for a VFR overflight. What is the reasoning behind this? *Separation*: Given the weather as -X23/4H and the control zone is a five-mile radius with extensions to the seven-mile arc north and south and is within a Group 1 Terminal Control Area (TCA) "A" area (surface to 7,000 feet), then if an aircraft departs SVFR eastbound, how long is the aircraft given IFR separation? Is it until crossing the depicted control-zone boundary (five miles east) or until crossing the depicted TCA boundary (seven miles east)?

The effective times of *control zones* are contained in the Airport/Facility Directory, which is published and distributed every eight weeks by the National Ocean Survey and the National Oceanic and Atmospheric Administration. A VFR pilot need only request clearance through a control zone during those hours when it is in effect and the reported weather is less than VFR. *Control zone extensions* are established wherever a Standard Instrument Approach authorizes descent to an altitude less than 1,000 feet above the surface at a point outside the basic control zone. Refer to Flight Procedures and Airspace Handbook 8260.19, Para. 534, and Handbook 7400.2B, Para. 175. *Overflights*: An instrument operations count is taken for an SVFR operation versus a VFR operation on the basis that IFR separation between aircraft is provided. Refer to Handbook 7210.3E, Paras. 1430 and 1432. Aircraft are afforded *SVFR separation* until crossing the depicted control zone boundary. Thereafter, aircraft are given Stage III TCA separation, provided they can comply with the provisions of basic VFR flight required within a TCA. Refer to Handbook 7110.65A, Paras. 470 and 1282.

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FAA WORLD

Our Man in Antarctica

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Cover photo courtesy of U.S. Navy

When we're young, youth's sense of immortality puts off our thinking about life insurance; when we're older, it's harder to come by and more costly. Yet, it's when we're young—starting our careers and families—that we need it most and can afford it least.

To avert the disaster that could befall those with this callow attitude, many employers offer group term life insurance policies that require no action on the part of employees to initiate. The Federal Government is no exception.

Can Your Family Make It Without You?

By Len Samuels

REGULAR INSURANCE

When you enter Federal service, unless you sign a waiver, you receive a certificate for the Federal Employees Group Life Insurance Program (FEGLI). This "Regular Insurance," for which you pay two-thirds of the cost, or 25.5 cents per $1,000 biweekly, and the government one-third, provides a face value of $2,000 more than your base pay rounded off to the next higher thousand. The minimum insurance is $10,000 and the maximum, $60,000. The amount changes automatically as your base pay does.

If, for example, you are a GS-9, Step 1, your base salary is $17,035 and your Regular Insurance is $20,000. Your biweekly premium, then, is $5.10, irrespective of age. Unlike private term life insurance policies where the premium goes up every five or 10 years at renewal because you're older, FEGLI Regular Insurance premiums rise only when your salary, and thus the face value of the policy, does.

Another distinction with private insurance is that no medical examination is required. However, if you did waive the insurance when you were hired, you have to wait a year, after which you may request the insurance, but only after having and paying for a medical examination from your own doctor. Also, you cannot reapply for the insurance after you've reached age 50.

Still another distinction: Some private policies waive premium payment when you are disabled. FEGLI premiums are not required for any pay period for which you receive no pay up to 12 months, for certain periods during which you are receiving compensation benefits and are unable to return to duty or after you retire following five years of creditable service or retire on disability.

Like other employer insurance but unlike private insurance you buy, the term of your policy expires when you leave the job—in your case, when you leave the Federal service other than at retirement.

If you lose your insurance for any reason other than your own voluntary cancellation or the termination of the group policy—such as when you leave the Federal service or enter active military service not covered by military leave—you may apply to convert the FEGLI term policy into some other form than term as an individual policy of equal or lesser value and without a medical examination.

OPTIONAL INSURANCE

To further meet some of your insurance needs, the government offers Optional Insurance. There is only one face value—$10,000—and you pay its full cost, which, like private policies, is predicated on your age (see table).

Though higher in cost than the

FEGLI OPTIONAL INSURANCE COST
(biweekly)

Under age 35	$0.60
Age 35 through 39	1.00
Age 40 through 44	1.70
Age 45 through 49	2.40
Age 50 through 54	3.50
Age 55 through 59	7.50
Age 60 or over	9.00

average private term policy because of retirement, accident and premium-waiver benefits, Optional Insurance biweekly premiums appear nominal through most of your career as they advance through five-year age groupings, but actually are getting fairly expensive in your later years. This is generally the case with term insurance—one argument for purchasing whole-life insurance at an earlier age, because the premium doesn't jump when you reach a high-risk age.

Premium payments are waived when you are in a leave-without-pay status for up to a year, but not when you are retired and under age 65.

Note that you can't obtain or keep the Optional Insurance without the Regular.

Similar to the Regular Insurance, if you lose your Optional Insurance—such as when you leave the Federal service or retire and do not wish to continue this kind of policy—you may apply to convert it to another form.

Both the Regular and Optional policies provide accidental death and dismemberment coverage, which doubles the face value of the policy. In the example given earlier, accidental death would result in a payment of $40,000 under the Regular policy and $20,000 under the Optional. The loss of two or more hands, feet and eyes through an accident would bring $20,000 and $10,000, respectively, and a single loss would pay $10,000 and $5,000, respectively.

The amount of your life insurance on both policies is paid regardless of how you die, but the accidental death and dismemberment provisions have standard exclusions, including suicide, self-inflicted injuries, war and insurrection.

WHEN YOU RETIRE

One of the bonuses of FEGLI to contrast with private term insurance is that you can keep your insurance into retirement partly without having to pay the premiums. When you retire, the life insurance can follow you if you don't elect to convert it to whole life, but not the accidental death and dismemberment provisions.

To carry the insurance into retirement, you must have at least five years of creditable service and have been insured for the five years immediately preceding retirement or all periods of service for which insurance was available to you if for less than five years.

If you retire on an immediate annuity or because of disability, both policies will continue at full face value. The Regular Insurance will be free. The Optional Insurance's premiums will continue, being deducted from your annuity, until you are 65 years of age, after which the Optional Insurance will be free, too.

With both policies, however, at age 65 the face value will begin to decline at the rate of two percent per month until it reaches 25 percent of the value they had at retirement. For our example employee, assuming the same grade and step at retirement, the residual values would be $5,000 and $2,500.

THE PAYOFF

Your beneficiary must send in a claim to your employing office with proof of your death and of his or her right to payment within one year of your death if your designated beneficiary is to receive the benefits. An accident resulting in the loss of life, limb or eye must be reported within 20 days and proof of the loss within 90 days.

The insurance proceeds are normally made in a lump sum, but the beneficiary may make arrangements for one of four other options:

Interest payments—the principal left on deposit for up to 30 years with monthly or annual payments of accrued interest only. Withdrawals of at least $500 of principal are permitted.

Installments—Monthly or annual payments of principal and interest over periods of from one to 20 years.

Survivor paymenis—Monthly payments for either 10 or 15 years on a fund of at least $6,000. No withdrawals are permitted.

Life income—Monthly or annual

The Insurance Menu

Different types of insurance serve different purposes. As the article above points out, for simple protection of your family and for the most for the least out-of-pocket expense, level term insurance is the policy of choice. However, other types may be better suited to specific needs. Here's a rundown on the major types.

Term Insurance

Level term insurance: The face value of the policy remains constant, as does the premium for the duration of the term, which may be one, five or 10 years. (There are shorter term policies, too, such as flight insurance.) If you renew the policy, the premium is adjusted upward based on your current age.

Within this category, policies may be renewable or nonrenewable, convertible or nonconvertible.

Policies that are renewable usually are so up to age 60, the exception being group insurance like FEGLI. But at that age, individual policy premiums are getting prohibitive. Nonrenewable policies expire at the end of the term, and you would have to apply anew to regain the insurance. Convertibility means your having the option of changing the term policy into a form of whole life, with premiums set at the age of conversion.

Declining term insurance: Here, the premium is fixed for the term, but the face value declines. This kind of policy should provide a lower premium than level term and is useful for paying off a mortgage in case of your death. However, since the decline may be too rapid in the face of inflation and will at some point give you less coverage for the premium paid, a better approach, if you can afford it at the time, is to take out level term insurance to cover this expense and drop it at the conclusion of the term when it's no longer needed.

Deposit term insurance: The first year's premium is higher than the rest of the term and is called the "deposit," which earns a return, making it a hybrid with whole life. However, the interest earned may not offset the premiums enough to make it a good buy, and you will take a loss if you drop the policy early.

Whole-Life Insurance

The character of all whole-life policies is that the face value and the premium remain constant as long as you hold the policy and that the policies have a cash value that you pay for in your premiums.

Straight life insurance: As with all whole life, the premium is fixed at the time you take out the policy, and you pay it as long as you live. If you cancel the policy, there is a surrender value. Since there is a cash value, you also can borrow against it, usually at a lower rate of interest than the banks charge. It represents a form of enforced saving, but the rate of return is lower than you can obtain elsewhere. Its major advantage to you is that it is insurance you can carry into old age at the same cost as when you first took it out. For people in high tax brackets, whole-life insurance can also function as a tax shelter.

Paid-up life insurance: In this policy, you pay the premium for a fixed number of years—20 or 30—but the coverage goes on until your death. The advantage is that you pay the premiums while you're working and do not have the expense in your retirement years. However, the premiums are higher than straight life.

Endowment: A still higher cost form of insurance, this policy runs for a fixed length of time—20 years, for example—at which point, if you have survived, the face value is paid. During the 20 years, the policy functioned as insurance; at the end, it functions as an annuity for you. It could be made payable, say, to your child so as to provide funds for college or setting up his own home or business.

Insurance policies are available as participating or nonparticipating policies. A participating policy pays dividends and, as a consequence, usually has higher premiums. Generally—but not always—the dividends offset the higher premium cost, and the Internal Revenue Service counts them as nontaxable partial refunds of premiums. Participating policies are usually the better buy.

payments guaranteed for lifetime and based on age of the claimant.

At the beneficiary's death, any remainder of the amount originally payable would be paid to the contingent, or second, beneficiary in a lump sum.

Speaking of beneficiaries, how many of you realize that if you have changed agencies in the government, any designation of beneficiaries that you may have made earlier has been cancelled? At each agency, you have to complete a new Standard Form 54, unless the standard order of precedence suits you. You may have other reasons for updating your designation of beneficiaries, such as marriage, divorce, death of a beneficiary or your own whims.

The standard order of precedence will suit most employees: widow or widower, child or children in equal shares, parents in equal shares, the executor or administrator of the estate and the next of kin according to the laws of the state in which you live.

THE FUTURE

Of all Federal employee benefits, life insurance benefits appear to have the best chance for improvement in the forseeable future because many of the costs of improvement can be offset by refining the premium structure and increasing earlier participation by more employees.

For the most part, insurance legislation in the first session of the 96th Congress had Administration support. A House bill (HR 3448) has carried over into the second session and, together with an Administration bill, is expected to get some Congressional attention this year.

What is proposed is higher Regular Insurance for younger employees, the opportunity to purchase Optional Insurance up to five times your base pay, permitting family members to buy insurance at Federal rates, boosting the residual insurance after age 65 to 40 percent of its original face value, increasing the government's share of the Regular Insurance premium to 40 percent and—to lower or hold premium rates in check—requiring premium payments on Regular Insurance between retirement and age 65. These improvements could be financed by the increased participation of younger employees, from the $2 billion insurance program reserves, economies like the elimination of the $6 million premium tax paid to the states (unneeded because the program is a self-insurance plan) or increased premiums.

How much employees will get remains to be seen.

HOW MUCH IS ENOUGH?

If you sit down and figure out how much insurance you need to satisfy all your plans for your family, you're likely to discover that you can't nearly afford it.

even if you're single, there can be a need for insurance

But this estimate is necessary, and you should do it to measure what your family will need, how close you can afford to come and which parts of the plan can be trimmed. You may also discover that you have more resources than you believed.

Even if you're single, there can be a need for insurance, although a smaller one. There are funeral costs, perhaps final medical costs and loans or other debts to avoid saddling your family with.

With an immediate family, if there are young children, you are already in need of as much financial protection as you ever will be. The children will have to be supported for a long time. A homemaking spouse will, too—certainly at least for an adjustment period after you're gone. If the spouse chooses to go to work while the children are still very young, then there will be babysitting or day-care costs that will have to be accommodated. Also, the spouse's job skills may not be very marketable, resulting in a lower income at first, sometimes barely offsetting the day-care and job costs, like lunch and transportation.

If the family is older, there's a shorter period of child support, but the spouse may find it even more difficult to renew a career with adequate earnings.

In both cases, you may want to provide for college educations for your children, which may be much more expensive than you estimated at the time you first took out insurance.

If both spouses work, it would be desirable for both to be insured, since you may have been living on both incomes. Even if the homemaker doesn't work at a job, you may have to consider the costs of final expenses and hiring a homemaker.

Each person has to make some assumptions about the surviving family's lifestyle—remarriage, remaining in your home, income prospects, educational needs, adjustments for inflation and even your spouse's retirement.

The February 1980 issue of *Consumer Reports* has an excellent article on evaluating your insurance needs. Below are some of the points to keep in mind in estimating your requirements.

Realizing that the proceeds from life insurance may be only part of what you leave your family, you may have to allow some funds to pay estate taxes. For most Federal employees, Federal estate taxes will be of no concern because there is an exemption of over $160,000, which rises to over $400,000 if everything passes to your spouse. However, state laws vary; some will tax from the first dollar.

You need to allow money for probate of your will. A ballpark estimate of the cost is about four percent of your assets, exclusive of life insurance proceeds, which, not so incidentally, are not taxable.

There are funeral costs to be considered, which *Consumer Reports* suggests averages about $2,000, and an allowance for uninsured medical costs for a terminal illness.

If you're not carrying credit life insurance on auto and personal loans, you'll have to plan on the funds to pay off these debts along with installment debts.

So much for the funds needed to settle your accounts. Now, turn to your family's living needs.

You'll need to plan on either paying off your mortgage, if you have one (or take out a mortgage-cancellation insurance policy), or allow money to meet the monthly mortgage payments—until the mortgage is paid off, until the children are out of the house or at some point where the spouse's income may be estimated to be adequate to carry the expense.

The unexpected does occur, so you have to allow for emergencies like uninsured medical expenses, house repairs and auto collision where the family would have to wait for recovery from the other driver. A recommended figure is $10,000.

Then there are just plain living expenses. A rule of thumb is that it will take 75 percent of your take-home pay to maintain your family's standard of living, and you'll have to multiply that to cover the period until your youngest child is 18 or until college is completed. Then, too, the figure you arrive at will have to be adjusted for inflation, which tends to outstrip the growth of your invested money.

While it's hard to gauge your children's educational requirements when they're very young, you won't want to foreclose their going to college, if at all possible, or leaving it to chance (read that as scholarships or spouse's

it will take 75 percent of your take-home pay to maintain your family's standard of living

adequate income or remarriage). And college costs are not the least of matters affected by inflation.

Finally, there's the question of a retirement fund for the surviving spouse. Much of the question revolves around age. Will there be enough years of working—from either shortly after your demise or after the children have left the house, if that's the plan—for the spouse to earn his or her own retirement benefits? In your case as a Federal employee, this could mean no additional funding on your part would be necessary if there's both a Civil Service survivor annuity and Social Security retirement benefits.

On the other hand, if you depart the scene at middle age or later, your spouse may not be able to earn adequate Social Security coverage because of age or infirmity. Yet, there may have been sufficient funds provided under other parts of this plan that were not tapped because you didn't die earlier, depending on the kind of insurance you carried.

WHERE THE MONEY COMES FROM

Cash and savings come to mind first, and they are especially important for the initial disruption caused by your death, before insurance and annuities can flow into your mailbox. Some funeral homes even require cash on the barrelhead before they'll give you your due.

Count the equity in your home only if your survivor plans to sell it. Any other real estate—business or vacation—should be counted since it is likely to be sold.

Securities that you may hold should be valued conservatively and not thought of for emergency money. As luck might have it, a panic sale will come just when the market is depressed.

Finally, life insurance and annuities that provide death benefits—these are the mainstays of your plan.

Add up the insurance you may already have: the Regular and Optional Insurance as a Federal employee, a G.I. policy from your military days, policies (usually small) from your membership in associations or other groups and any commercial insurance you purchased individually, including special-purpose policies like mortgage-cancellation insurance and endowment policies you may have taken out for the benefit of your children.

Remember that most group insurance, including the FEGLI policies, is term insurance and ceases if you leave the group or job, and it gets increasingly expensive as you grow older. Many term policies are not renewable when you reach age 65, which may or may not be of concern.

Also, declining term—like mortgage-cancellation insurance—reaches a point where the declining face value no longer is worth the premium. Initially the lower premium may be attractive—especially when you're young and really pinched for money—but the soundest advice would be to opt for level term insurance and drop the policy when the mortgage or other need no longer exists.

In general, level renewable term insurance appears to be the best bet when you're buying your own commercially. It gives you the most pure insurance protection for the least money at that time when you need it most and have the lowest income. That the premiums become excessive later in life may not be relevant, for you will have less need for a large amount of protection and can just not renew the policies.

You will need some protection later in life—for estate taxes, funeral costs, emergencies, living expenses and retirement money for your survivor. For that reason, your FEGLI and G.I. insurance is especially attractive at that time, and you will have the death benefits provided by your Civil Service annuity and, perhaps, Social Security. However, since you don't know what's around the corner—suppose you lost your Federal job before retirement—you will need to hedge your bets.

Secure investments are one way, but a business downturn just when your survivor needs the dividends or interest could hurt. Savings accounts or an IRA retirement account by your privately employed spouse (you can't open one), started early enough, are other approaches to provide old-age income for a spouse.

A convertible-up-to-age-60 feature in your term policies could provide whole-life insurance to carry into old age, but, if converted late, might be too expensive for your retirement budget.

A whole-life policy purchased young could be part of your raising-the-family program and, if you survive those years, also double as your survivor's old-age contingency. While more expensive than term insurance when you buy it young, whole life will impose a lower premium burden by the time you reach your later years. However, since part of your premium goes toward the policy's cash value, it is in a sense like a declining term policy—you've already paid up part of the value of the policy, so the insured portion of the face value is smaller, but you're still paying the same premium. In an accounting sense, the policy may be too costly in your later years, although not from an out-of-pocket standpoint.

In addition to your FEGLI insurance, no less a part of your overall insurance plan are the death benefits available from your Civil Service Retirement System and, if you qualify, from Social Security.

Most employees are aware that they can specify a survivor annuity at retirement, which will provide up to 55 percent of the annuity to which the employee alone is entitled. If you die before retirement, however, your spouse still will receive 55 percent of the annuity to which you would have been entitled if you had retired instead of died at that point in your career, except there is no reduction in benefit because you were

continued on page 13

Our Man in Antarctica

'. . . No Sky No Sides No Bottom'

By Pete Chesney

The first thing we saw as we stepped from the Air Force C-141 at the Navy's McMurdo Station in the Antarctic was a rope with red flags every five feet that lead to the vehicles that had come to pick us up.

The rope was there to keep us from getting lost in the event of a whiteout. A whiteout—a spooky and disturbingly common phenomenom in the Antarctic—is a cloud of blowing snow that blanks out everything except objects just a few feet away.

And it was partly because of a whiteout and partly because of an apparent navigational error that we were there. We were from the FAA, the National Transportation Safety Board, the General Electric Company and the McDonnell-Douglas Corporation, and we were there—as representatives of the country that built the plane and its engines—to participate in the investigation of the crash of an Air New Zealand DC-10 on a glacier near the bottom of nearby Mt. Erebus last November 28.

The accident, in which 257 persons were killed, occurred when the aircraft, which was on a sight-seeing flight from New Zealand, flew past the wrong side of Mt. Erebus at too low an altitude and crashed into it at a little more than 1,300 feet after getting caught in a whiteout.

Our rendezvous point for the flight down to McMurdo was Christchurch, New Zealand, which I reached after a 30-hour trip from Washington. At Christchurch, the Navy supply facility there issued us our arctic gear. This consisted of sunglasses (to protect against snow blindness), three different pairs of gloves, a hat with earmuffs, a woolen muffler, two sets of thermal long johns, two sets of green Navy fatigues, a parka, winter pants with liner, woolen socks, a pair of black leather boondocks boots and a pair of snow bunnies—big, heavy, double-insulated white boots.

The Navy told me that I would have to take a physical and sit through a lecture on arctic survival. I got out of the physical by showing them my FAA first-class medical certificate, for which I had been examined only three weeks before. I avoided the lecture by telling them that they had taught it all to me before—in an Arctic survival course that I took when I was in the Navy.

Two scheduled departures for the Antarctic were cancelled, one because of bad weather at McMurdo and the other because of bad weather at Christchurch. We took advantage of the delays to interview the crew of the C-141 that had been in contact with the DC-10 shortly before the crash.

They told us that the DC-10 crew reported that they were in clear weather and were about to descend to 6,000 feet. It was the last communication from the crew.

When we finally did take off for the five-hour flight to McMurdo, we found that not much had changed from World War II and Korea. We were jammed in along with cargo and, to our dismay, learned the hard way that the Air Force still uses the same old canvas bucket seats, the same old box lunches and probably the same old coffee.

Once we were on the ground at McMurdo, the waiting vehicles took us from the airstrip to the station itself, a distance of about five miles. It was

Mt. Erebus, some 40 miles distant in the background, will bear a cross in memory of the victims of the DC-10 crash similar to this one memorializing Capt. Robert Falcon Scott and his companions, who died here in 1912.

Investigators stand outside their orange tent city, close by the wreckage of the Air New Zealand DC-10 on Mt. Erebus on Ross Island off the coast of Antarctica.

summer in Antarctica at the time, and the temperature was a "balmy" 25 degrees Fahrenheit.

The station, which consists of about 40 buildings on the rugged slopes of an extinct volcano, is not a military base but rather a support base for the U.S. National Science Foundation's research projects there. It has a population of approximately 1,000 persons during the summer months and about 75 "winter-overs" during the long winters.

The main building is a large three-story structure containing the mess hall and sleeping quarters. Our rooms, which we used when we weren't camping out at the accident site, were warm and comfortable. But before we could use them we had to go to our first briefing and organizational meeting.

It was here that we met Ron Chippendale, Chief Inspector of Air Accidents for the New Zealand government and head of the six-man investigation team from New Zealand (three from the New Zealand government and three from Air New Zealand).

He had been flown to the accident site by helicopter but had been unable to land because of high winds. Three "Mountain Men" had been let down to the site by winch, however, and they reported no signs of life.

The "Mountain Men" are members of a volunteer group of mountaineers in New Zealand who are organized to respond quickly to go to the aid of mountain climbers in trouble.

The status of the investigation at this time was that the cockpit voice recorder and the digital flight recorder had been recovered. The group decided that it would be best to get the recorders back to the United States to determine if the tapes were readable and to do this as

Pete Chesney is an accident coordinator with the Accident Investigation Division of the Office of Aviation Standards. He has been involved in the investigations of air-carrier crashes in San Diego, Chicago, Portland, Mexico City, Athens and Tenerife.

A New Zealand policeman (left) and Pete Chesney methodically hunt for navigation instruments scattered among the crash debris.

A Navy helicopter at McMurdo Station on Ross Island is rolled out to prepare for takeoff. The LN-1s serviced the investigation team and scientific expeditions in the area.

soon as possible. We wanted to do this for two reasons. First, if the tapes were unreadable then a more detailed investigation would have to be conducted at the scene under adverse conditions. Secondly, the additional personnel brought about by the accident were taxing the accommodations at McMurdo.

Chippendale said he had two men working at the site plotting the wreckage and that they would be brought back the next day, weather permitting, and we would go in.

The American team was divided into three groups. Alan L. Crawford, head of the National Transportation Safety Board's Los Angeles office, and Capt. C. N. Hammett, airline engineering pilot for the Douglas Aircraft Company, would document the cockpit. John Moehring, chief consulting engineer for the General Electric Company, and Lyle A. Wright, director of design engineering for commercial projects for Douglas, would document the engines. Steve P. Lund, senior flight safety engineer for Douglas, and I would retrieve navigation instruments and any other information that was not retrieved by the others.

The next day, December 4, was spent in being briefed on the rudiments of glacier climbing by a Mountain Man and getting proper equipment for the mountain weather. This additional gear consisted of a liner for the parka, ski goggles, woolen pants, crampons, ice axe, balaclava (a woolen ski mask) and a back pack.

Our time to depart came at 10:00 a.m., December 5. Lund and I went to the helicopter hangar as they were preparing to bring the chopper, a five-seat Navy LN-1, out. The takeoff was uneventful.

We had the earphones and were able to eavesdrop on the crew. There was a debate as to whether we could make it over the saddle due to weather, and it was music to my ears to hear the Navy pilot say, "Well, whatever, but I am not planning to become a hero." We kept on going, however, and I could just barely see the mountain on the right and nothing to the left. There was a complete whiteout, no sky, no sides, no bottom—weird. We broke out on the other side of the mountain into the bright sunlight.

We landed on a helipad near the camp site and were directed by the Mountain Men to a tent city. There were 13 two-man tents and two five-man tents; one was for cooking and the other for supplies and eating.

We were given further lessons on how to properly carry the ice axe: on the upslope side with the point back. In

Equipped for the polar rigors, accident coordinator Pete Chesney points out a feature on the mainland of Antarctica with an ice axe.

Returning to their tent city from the crash site with bags of evidence are (from the left) a New Zealand policeman, a Mountain Man and a U.S. Navy diesel engineer and paramedic. All carry the ubiquitous ice axe necessary on hard-packed glacial ice.

addition, we were taught "body-arrest." This procedure is used to stop you when you slip on the ice, even wearing crampons (which we did), and start sliding down the glacier with nothing to stop you but wreckage, crevasses, deep snow or rocks after you fall off a cliff. It calls for rolling over on your stomach and digging in the point of the ice axe to stop the slide.

We were further instructed never to go out alone and to notify the cook, who was always at the camp, whenever leaving, to take all your clothing, except the excess, with you, to keep an eye on the weather and never to work up a sweat or get your clothes wet. They would freeze and so would you in the near-zero temperatures at the accident site.

We deposited our excess gear in the "Investigator's tent" and were led off by our Mountain Man to the accident site. In order to get to the impact point, we had to cross a crevasse that was narrow but 200 feet deep. As we approached it, I lost sight of the wreckage several times as whiteouts moved in and out.

The aircraft had impacted in a 10-degree nose-up angle against the 17-degree slope of the glacier. From that point on, the aircraft disintegrated as it slid up the mountain, leaving a trail of wreckage at least 2,000 feet long.

That night, we ate a good, solid hot stew and had a good bull session before turning in for the night. I made myself as comfortable as possible sitting on a folded up tent and, using my axe as a back rest, tried to catch a nap. A Mountain Man came by and said that there should be room for me in a tent and disappeared. In a short while, he returned and pointed me in the right direction. I crawled into it and made my way to a pad where I collapsed, not knowing who my tent mate was. At 5:30 in the morning, I was wide awake and decided to get a cup of coffee. As I was leaving the tent I heard a voice say, "There's a sleeping bag for you in the corner." "Thanks," I said to myself.

The weather was unpredictable. If it was good at the site, it was bad at McMurdo, and once when both were good, the helicopters were either down

The Frigid Desert

From Antarctica, The Last Continent, by Ian Cameron:

"The Southern Continent is a desert, with an annual precipitation fall of less than 5 cm. per year, and there may well be places close to the Pole where snow has never fallen.

"Antarctica is by far the coldest place on earth; weather stations have reported temperatures of -88° C, more than 20° below those recorded anywhere else. In this sort of cold, if you try to burn a candle, the flame becomes obscured by a cylindrical hood of wax; if you drop a steel bar it is likely to shatter like glass; tin disintegrates into loose granules; mercury freezes into a solid metal; and if you haul up a fish through a hole in the ice, within five seconds it is frozen so solid that it has to be cut with a saw.

"All who have set foot in Antarctica agree that its predominant and most malevolent characteristic is wind. When we wintered in Adelie Land, the wind on 5th July blew non-stop for eight hours at an average speed of 107 mph; gusts were recorded of over 150 mph; and the average wind velocity for the month was 63.3. In these conditions, it was possible to stand for no more than a few seconds, and then only by leaning forward at an angle of 45°!"

for maintenance or off on a supply trip to one of the scientific expeditions. We later learned that these scientists had to go on half rations because the helicopter had been busy at the crash site. There were four helicopters—one was awaiting parts and one of the others seemed to be down for routine maintenance. They never sent one out on a mission unless there was another standing by for Search and Rescue (SAR) duty.

And we had our shortages, too. One of them was the alcohol we used for cooking fuel. If we had run out completely, we would have had to eat cold food and would have had no water, for there was no liquid fresh water at the crash site. And the only way to get drinking water was to melt the ice with the fuel.

Our time was spent in going over the wreckage time and time again. One never knew when one might find the one clue that was the key to the accident. Moehring of G.E., for example, worked continuously gathering engineering data and recording the extensive damage to the engines.

Good news—Saturday evening the helicopters were flying again. Our number two group left about 10 p.m., and we were next to leave shortly after midnight after three nights at the site. The sights we saw were grisly and heart breaking (for a pilot to see a broken plane) and, at the same time, awesome and beautiful.

Sunday and Monday were given over to progress meetings, each member giving a report on his findings. We were relieved to learn from Washington that both recorders had been functioning properly and that they were getting excellent readout data. This gave us a sense of relief knowing that we would not have to return to the scene and dig in the fuel-saturated snow and ice for more instruments.

We returned our arctic gear with gratitude, because we certainly would have been miserable, and possibly injured, without it.

We departed McMurdo on December 11 in a New Zealand Air Force Hercules C-130. The same bucket seats, the same coffee, the same box lunch—only the trip was longer by two hours, putting us in Christchurch at 2:15 a.m. I left that beautiful city at 4:15 p.m. for Auckland, N.Z., where I would meet with Crawford and Chippendale the following day.

A last meeting was held on the 14th, and the last of the U.S. Investigation Team departed that evening for Los Angeles. I returned to Washington, having been gone for 17 days.

We had done our job; now the determination of cause was in New Zealand's hands.

LET'S WAIT FOR THE MOVIE . . . All of a sudden, it's exciting and glamorous to work for FAA. It's getting so you can't pick up a paperback book at the drug store anymore without finding an FAAer in the hero's or the villain's role. Last month, for example, we reported on a new book that detailed a typical hum-drum day in the Miami control tower—i.e., controller runs amok, takes the Transportation Secretary hostage and imperils the safety of a Concorde flight. Now comes another novel ("Free Fall") about an FAA inspector who apparently has not gotten the word about the Administrator's stepped-up enforcement program. Instead of occupying his duty hours tracking down reckless pilots and unsafe operators, he's off in Montana somewhere chasing a D. B. Cooper-style hijacker who has made off with $750,000 in small bills. You see, the inspector was the hijacker's sergeant in the Green Berets and taught him everything he knew about guns and karate and stuff like that there. So, the way we see it, he has this sense of social responsibility that impells him to track down the hijacker and bring him before the bar of justice. We just hope he's using annual leave for all these goings on, or maybe comp time.

15¢ SAVED IS 15¢ EARNED . . . Out in the heartland of America, the Federal Government worker is considered a prolific spendthrift who devotes most of his/her time on the job to devising new ways to squander the public monies. Nothing, of course, could be farther from the truth. In fact, the FAA Depot at the Aeronautical Center in Oklahoma City recently sent out a notice to agency facilities soliciting their aid in recovering the Klimp fasteners used on wooden boxes. The notice pointed out that these spring fasteners (see drawing) cost about 15 cents each and are going out faster than they can be recovered. "This adds up to a large sum of money the way they are being used," the notice added, "and with your help and cooperation, we can reduce this expenditure." So if any of you have any loose Klimp fasteners lying around, box them up and ship them to AAC-431C. Every little bit helps.

LET THEM EAT CAKE . . . Union leaders who think FAA management is a tough nut to crack can thank their lucky stars that they don't have to deal regularly with the people who run the Kent County Airport in Grand Rapids, Mich. When controllers at the airport complained about being shifted to a new parking lot farther from the tower, they got precious little sympathy from the governing aeronautics board, although one member did propose a compromise solution. "Buy them roller skates," he quipped when told of the controllers' concerns, but nobody in the tower laughed or even smiled.

WORD SEARCH

By Barbara Andrews
ATCS, Fayetteville, Ark., FSS

This month, the puzzle is simpler, so we're going to make it more difficult to do. The subject is thunderstorm hazards. There are only 13 terms hidden in the puzzle, so we're not giving you a word list, although we are circling one to get you started.

The terms read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The terms may overlap, and letters may be used more than once.

See how many you can find and rate yourself according to the PER below. When you give up, the answers may be found on page 17.

13 terms—Walks on water consistently
11-12 terms—Walks on water in emergencies
9-10 terms—Washes with water
7-8 terms—Drinks water
Less than 7—Sleeps on a water bed

S D N I W E C A F R U S A R D O N C N
E R O B A N I C H O G P Q E M B R X O
N A E Y Y E A I M H A O F B G N I C I
I U V T U R B U L E N C E E A P S A T
L Y W E E O J A G Q F W I B E D E S A
L F O W T M U N T K A O B I R T U L T
L L D U E B I O D L E O V A X U T E I
A B E A Z N C T O B E W Z B S A C R P
U A D N T D O M L Z P A E K G D F J I
Q P S H O Z F L I A H J V W N K H O C
S R G Q T X N H M I N I H L I G O I E
Q I H Q U Y E K U V C O T G L I G B R
L Z K B Y G X W J L J A S R I S B D P
P A D U M S E O D A N R O T E Q E Y Z
O C T D O F N P E K A F D I C P C O B
T H U N D E R S T O R M L X W E Y A Z
I M S V C E N Q R B F L W G O X F H A
W T Y T I L I B I S I V W O L U O F B
A X O P V T U I T B Q C F X E Z O P E

INSURANCE

continued from page 7

under age 55 at your death.

In addition, your children are entitled to an annuity if they are under age 18 and unmarried, over 18 and incapable of self-support or are students and between the ages of 18 and 21. If the student's 22nd birthday occurs during the school year, the annuity continues through June 30.

Each eligible child will receive an annual annuity equal to whichever of the following is the least: 60 percent of your high-three-years salary divided by the number of eligible children, $5,232 divided by the number of eligible children or $1,728. These figures are for 1978 and do not reflect cost-of-living increases since. If your spouse does not survive you, different figures apply to the child annuities.

If you have Social Security coverage from working in the private sector before or after your Federal service, your surviving spouse is entitled to a $255 lump sum for burial expenses and a monthly benefit equal to yours if she is of full retirement age or 75 percent of yours if she is younger and caring for your children. A widower must have a child in his care to receive a 75 percent benefit or have been dependent to receive full benefits. Each child can receive 75 percent of your entitlement, as well, although the total family benefit is limited.

no less a part of your overall insurance plan are the death benefits available from your Civil Service Retirement System

Another important factor in providing for your family is your health insurance. Not only can you carry your health insurance into retirement but also, if you die and you carried family enrollment, your eligible survivor can continue your benefits, paying the premiums from the annuity.

So, your total resources may not be as limited as you imagined, but be realistic in computing your family's survivor needs. You may trim some of the standard of living to which they are being accustomed—expensive vacations and a non-essential car will have to go—but they are dependent on everyday necessities. Odds are that you'll find your current assets won't match them by a long shot, especially under continuing inflationary pressures. The longer you live, however, the better your resources will look.

For now, your best bet is to balance your accounts with some more level-term insurance.

Scarcely a month after she received her license from the Fedration Aeronautique Internationale in the summer of 1929, Blanche Noyes entered the Women's Air Derby in her Beech Travel Air Speedwing. Despite mishaps enroute, she placed fourth in the competition.

Smithsonian Institution photo

She Made a Mark on Aviation

If anyone could be said to have made a "mark" during an FAA career, it would certainly have to be Blanche Noyes.

In fact, it would be more accurate to say "marks," because in her more than 35-year FAA career Blanche Noyes made about 75,000 of them all across the U.S.

It was she who spearheaded the air-marking program to paint the names of cities and towns on the roofs of buildings and on highways and fields as a guide to lost pilots.

Air marking may sound obsolete in this jet age when airliners and many other aircraft are equipped with sophisticated electronic navigation gear. But, actually, it's as up-to-date as Blanche Noyes herself, who lives in retirement in a Watergate apartment in Washington, D.C., and still remains actively interested in aviation and the FAA. Recently, for example, she came back to the FAA to help kick off the Combined Federal Campaign and regale the audience with her flying experiences in the early days of aviation.

The 99s, an association of women flyers that Mrs. Noyes helped to found in the 1930s, still has an active air marking program. And FAA, to a limited degree, is involved with such a program in Alaska where low-flying pilots still rely heavily on markings to guide them.

Mrs. Noyes' interest in air marking was sparked by a personal tragedy. In December 1935, her husband, Dewey, who had taught her to fly, was killed in a plane crash. They had first met in 1927 in Pittsburgh at a dinner honoring Charles Lindbergh, then touring the U.S. after his celebrated flight to Paris.

At the time, Blanche had absolutely no interest in aviation. She was pursuing a successful acting career in the theater, and, in fact, was in Pittsburgh starring in a melodrama called "White Cargo" when the dinner invitation came.

By chance, she was seated next to a handsome local airmail pilot by the name of Dewey Noyes, who spent the entire

meal talking enthusiastically about aviation. Because he was so handsome, Blanche feigned an interest in aviation and, despite her fears, even agreed to fly with him. Within a year they were married. He soon taught her to fly and, with fewer than four hours of instruction, she soloed, becoming the first licensed woman pilot in Ohio and one of the first 10 women pilots in the U.S.

After that, she flew every chance she got and, in 1929, entered the Women's Air Derby (later to become the annual "Powder Puff Derby") from Santa Monica, Calif., to Cleveland. Flying a Beech Travel Air Speedwing, she had to make an emergency landing in the Arizona desert to put out an engine fire. On takeoff, she bent the landing gear and had to land on one wheel in Pecos, Tex., to make repairs. In spite of these problems, she finished the race in fourth place behind the winner, Amelia Earhart.

She soon became an aviation celebrity, acting as a demonstration pilot for aircraft companies and lecturer on aviation. She also promoted interest in aviation among business leaders, including John D. Rockefeller, Sr., who took his one and only airplane ride with her at the age of 91.

In 1935, after Dewey Noyes had taught her instrument flying, the two began planning an around-the-world flight. But those plans were shattered in December of that year when she got the news that Dewey had been killed.

She temporarily lost interest in aviation. But then, with Amelia Earhart's encouragement, she began to realize how many pilots lost in bad weather over unfamiliar countryside could be saved if communities around the country could be persuaded to put up some kind of markers.

From then on, air marking became her career. (See "FAA Women Pilots—Then and Now" in January 1980 issue of *FAA WORLD*.) When she went to work for the Bureau of Air Commerce in 1935, the goal of the bureau's national air-marking program was to divide the nation into 15-square-mile segments, with an air marker located in each square. That plan never succeeded, mainly because the bureau couldn't get the necessary funds to keep it going. So, Blanche, who was appointed an air-marking pilot for the bureau in 1936, and others had to fly around the country to drum up support from local chambers of commerce and other civic groups. Soon, the names of towns and villages were displayed on thousands of rooftops, fields and highways across the land.

Blanche still found time for competitive flying. In 1936, for instance, she teamed with Louise Thaden to win the 1936 Bendix Air Race from New York to Los Angeles in 14 hours and 55 minutes. To both of them, the $7,000 prize money was far less gratifying than the satisfaction of beating the male competitors, especially the famous ones.

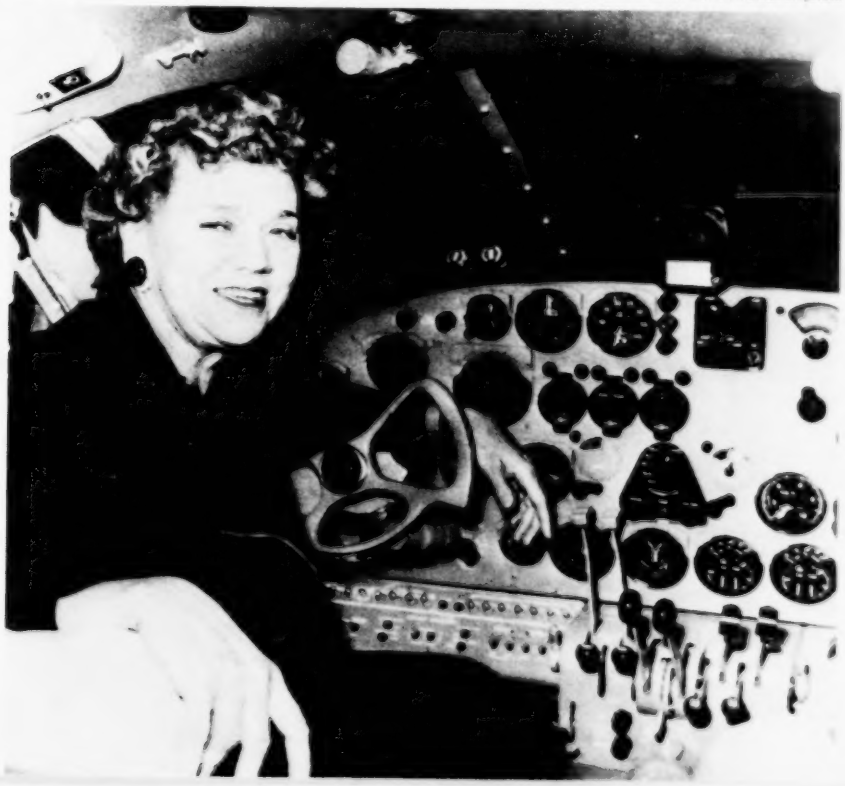
During World War II, the air-marking program was suspended. In fact, shortly after the Pearl Harbor attack, the War and Navy Departments, concerned that air markers might help enemy pilots, asked the Civil Aeronautics Administration to screen or obliterate all markers within 150 miles of both the Atlantic and Pacific coasts.

As soon as the war ended, however, Blanche and her co-workers, with help from the 99s, were back at work getting the old markers repainted and new ones added.

By the time Blanche retired on Jan. 1, 1972, as chief of Air Marking for FAA, more than 75,000 communities had been air marked for pilots. Many pilots whose lives were probably saved by air markings when they were far off course or dangerously low on fuel and desperately looking for an airport, never knew whom to thank for the unexpected help. But, many others did know who was responsible and commonly referred to Blanche as the "patron saint of pilots."

Blanche received so many trophies, cups, medals, plaques and other national and international honors in her 45 years in aviation that her apartment can hardly handle them all. Her honorary titles range from one of the "top aviator greats" and aviation's "Woman of the Year" to "The Grand Lady of Aviation." But, the honor she cherishes above all others is the fact that she was the first woman pilot ever hired by the U.S. Government. She thinks Dewey would have liked that best, too.

Chief of the Air Marking Staff, Blanche Noyes served for 36 years in the Bureau of Air Commerce, Civil Aeronautics Administration and FAA until her retirement in 1972. Smithsonian Institution photo



DIRECT LINE

Q A pilot flying at FL 450 enroute from Point A to Point B is approaching Point B and is issued this clearance by an ARTCC: " . . descend to FL 330, maintain FL 330" (to comply with a letter of agreement with the adjacent facility). The pilot responded with a request to maintain FL 450 to conserve fuel. The pilot's request was forwarded to the adjacent facility and disapproved because of traffic. He is again issued the descent clearance, which he refuses. Then the adjacent facility advised us to hold the aircraft, and the pilot was cleared to make a 360-degree turn. This clearance was also refused with lengthy verbiage on the cost of fuel. The aircraft was then handed off and communications transferred to the adjacent facility. On callup to the receiving facility, the pilot was asked if he was declaring an emergency. His reply was negative, accompanied by why he would not descend until he was ready. Several aircraft were vectored to keep clear of this problem aircraft. The center that issued the clearances filed possible-violation forms with the appropriate Flight Standards District Office against the company, which has a long history of operational practices that have taxed the system at the expense of other users. The FSDO refused to process the violation because they contended that the pilot was within his rights to refuse these clearances and was not in violation of FAR 91.75. If this interpretation is correct, how can air traffic be controlled and safely separated?

A FAR 91.75(a) states that "when the ATC clearance has been obtained, no pilot in command may deviate from that clearance except in an emergency, unless he obtains an amended clearance." This inquiry itself does not provide adequate factual background from which to base a legal judgment on the question of whether a violation actually occurred. Controllers are responsible for separating aircraft, while the pilot-in-command of the aircraft is directly responsible for, and is the final authority for, the safe operation of that aircraft.

Q My question concerns the selection process for a GS-13 crew chief vacancy at an ARTCC Airway Facilities Sector. As I understand it, the selection list is made by the regional office and sent to the sector manager. The sector manager then selects a name from this list and sends it back for regional office and EEO council approvals. This process could be speeded up if the regional office and EEO would get together before the list is completed, omitting any name they could not agree on. Then, this list could be sent to the sector manager for final selection, permitting the manager to announce his selection at the same time he makes it. If the rules say this can't be, how can agency orders and regulations be changed?

A The agency's Merit Promotion Program regulations are revised when management determines that they are no longer applicable due to changes in Federal regulations, if they are outdated or if they are inappropriate. You, as an employee, can bring to management's attention any regulations you believe are inappropriate when they do not benefit the efficiency and effectiveness of government operations and services, using the suggestion program, "Direct Line" or direct contact with the appropriate officials. In this particular case, there are good reasons for the review process described. Applications are reviewed by a personnel specialist, a field personnel specialist or an MPP panel of three individuals who have knowledge of the position. Candidates are rated on the quality of their experience, self-development and training, PER and awards. The best-qualified candidates are then referred to the selecting official. The selection is then reviewed by the Civil Rights Staff—which provides advice on civil rights and equal opportunity issues as they pertain to internal regional employment practices—and the regional Personnel Office—to assure that all personnel regulatory and legal requirements are met. For these reasons, the selecting official must not make commitments to any of the candidates. The notification of selection, including arrangements for a release date, is the responsibility of the regional Personnel Management Division. These review functions provide a checks-and-balances system that is necessary to preserve the integrity of MPP.

Q In addition to Stage II, which provides radar advisories and sequencing of VFR aircraft, the definition of Expanded Radar Service—Stage III includes separation between all participating aircraft. When a pilot says "Negative Stage III," is he telling the controller that he does not want radar advisories, sequencing and separation, or is he only indicating that he does not want separation service? If an aircraft requests a Special VFR clearance to enter or depart a control zone, may ATC issue an SVFR clearance to the pilot if the weather reported for that control zone is VFR? The pilot may be requesting this clearance to allow him to operate at less than the VFR minimum distance from clouds when he is only a VFR-rated pilot.

A When a pilot states "Negative Stage III," it should be interpreted by you as meaning that the pilot wants none of the Stage III services. Conversely, when a pilot does not state it, you should provide all of the services of Stage III (FAA Handbook 7110.65A, Air Traffic Control, Section 21, Stage III Service). You may only authorize Special VFR operations in weather conditions less than the basic VFR minima. In your example, the reported weather at the airport of intended landing or departure was VFR. Thus, the pilot's request for SVFR should be denied. Also, if the pilot reports weather below the reported VFR conditions, you

should relay the report to the weather reporting station and assist the pilot in finding an alternate route of flight to maintain VFR minimum distance from clouds.

Q **Please define simultaneous operations and advise on the following: Our airport has parallel runways separated by less than 2,500 feet. Is it permissible to run simultaneous operations to these runways if small, large or heavy traffic is being intermixed on both runways?**

A Simultaneous operations are the operation of two or more aircraft arriving and/or departing the same or adjacent airports and for which procedures and criteria in Handbook 7110.65 permit them to be conducted at the same time, as opposed to sequentially. Each procedural paragraph of this nature specifically uses the word "simultaneous" in the paragraph and text. The handbook contains a number of provisions that apply to such operations on runways separated by less than 2,500 feet. For example, paragraphs 796, 1103 and 1104 could apply. The involvement of heavy aircraft could also require the application of one or more of the provisions of Chapter 6, Wake Turbulence. The question itself is not specific enough for the operation you have in mind to get a more specific answer.

Q **FAA Order 7210.3E, dated Oct. 1, 1979, Para. 241, Section b, has been amended by GENOT 9/166, Oct. 10, 1979, removing the requirement that team supervisors no longer have to rotate through all watches. Our facility has had five assistant chief/team supervisors for over 15 years, and now our chief is planning to follow suit and replace them with controllers-in-charge on the mid-watch. The duties and responsibilities on the watch have not changed. In effect, the station will have six team supervisors, not five. Section f of the same paragraph states that the controller-in-charge is to be used when supervisory personnel are not available. Is removing the team supervisor from the mid-watch making them not available? I don't believe this was the intent of the GENOT. Another item. The new position description for a supervisory controller, as well as the old one, makes no reference to the controller-in-charge, nor does the job performance standards or the performance evaluation. Why? What is the definition of "no supervisory personnel available"? This facility has used the controller-in-charge habitually over the past two years, even when supervisors are available to avoid overtime on the part of the team supervisors.**

A GENOT 9/166 corrected the wording of Para. 241 b. Inadvertently, the wording "team supervisor" was entered in the new publication of 7210.3E. The intent of this paragraph is to insure that under normal circumstances the basis for establishing five or more secondary-level supervisors (assistant chiefs) is strictly followed; namely, the requirement for such a supervisor to rotate through all watches. Insofar as the designation of a controller-in-charge is concerned, such a designation is appropriate whenever and for whatever reason a supervisor is not available. The position description and performance standards only make reference to major job assignments and responsibilities, and performance of controller-in-charge duties is not considered a major job assignment. Prior to Sept. 19, 1978, flight service stations called their first-line supervisors "assistant chiefs." With the issuance of Order 1100.146, Standard Organization of Air Traffic Flight Service Stations, these first-line supervisors are now called team supervisors, and second-line supervisors are called assistant chiefs.

Word Search Answer

puzzle on page 13

S D N I W E C A F R U S A R D O N C N
E R O B A N I C H O G P Q E M B R X O
N A E Y Y E A I M H A O F B G N I C I
I U V T U R B U L E N C E E A P S A T
L Y W E E O J A G Q F W I B E D E S A
L F O W T M U N T K A O B I R T U L T
L L D U E B I O D L E O V A X U T E I
A B E A Z N C T O B E W Z B S A C R P
U A D N T D O M L Z P A E K G D F J I
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FSS Modernization on the Move

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Bringing the FSS System Into the Modern World

By Gerald E. Lavey

When FAA recently announced its latest plans for modernizing the agency's aging flight service stations, some veteran FAAers must have greeted the news with a ho-hum, feeling they've heard that tune before. After all, FAA efforts to modernize its flight service stations aren't exactly modern. The agency has been at it, off and on, for the past 16 years.

But, FAA has gotten smart from its earlier attempts, says Bob Bell, chief of the FSS Operations and Procedures Branch in the Air Traffic Service. "This time around we have a good chance of making it. I'm more optimistic about this FSS Modernization Program than any of its predecessors, and I've seen them all. A couple of years ago, I thought I'd never see an automated FSS before retirement, but now I think I will."

The key to that success, says Bell, is "to prove to Congress and the general aviation community that an automated FSS network can provide better quality service."

Bell agrees that trying to close FSSs was unquestionably the major stumbling block to earlier efforts.

The first such attempt was made in early 1964 when FAA, under Administrator Najeeb Halaby, announced plan to reduce the number of full-time domestic FSSs from 297 to 150. These "hardcore" stations were to be equipped with the latest communications equipment and supported by a number of smaller satellite facilities—some manned, others self-service—which would remain open only on a part-time basis.

According to Halaby, this streamlined network would require 500-600 fewer specialists and save the taxpayer about $3 million annually—without, he added, "any encroachment on aviation services or safety standards."

However, when Halaby went up to

The first AWANS commissioned at the Atlanta FSS in 1975 has elements that will be incorporated in the modernization program. Weather graphics are displayed on the array of CRT monitors, and the specialist can call up that material in addition to alphanumeric weather and other aeronautical information at his own position's cathode-ray-tube display.

Before AWANS and when the AWANS was down, the Atlanta preflight briefers had to turn back to paper—reams of Teletype reports and facsimile maps, which slowed the briefings.

More typical of the old-style flight service sation slated for improvement is this one at Martinsburg, W. Va., the consoles cluttered and garnished with Teletype paper.

Capitol Hill to present the plan to Congress, he caught a lot of political flak. The proposal was vigorously opposed by private pilots, general-aviation organizations and some local communities. More importantly, some Congressmen, particularly influential ones whose districts were slated to lose FSSs and the revenue they generated, weren't too keen on the idea either.

So, ultimately, Congress slapped a year's moratorium on the closing of any FSS, and told FAA that any changes to the FSS system would be done only when "it could be clearly proved that service and safety would not be reduced."

Later, to make sure that point was perfectly clear, a rider was attached to the FY 1966 appropriations bill prohibiting FAA from closing any station without first consulting Congress.

While those Congressional actions didn't scuttle agency plans for FSS modernization, they certainly relegated them to the back burner. However, in 1969, a group of FSS personnel from headquarters and two regional offices got together to discuss what could be done at least to promote automation. Their efforts led in 1971 to the formation of an agency committee, and later an OST/FAA task force was formed to study the FSS situation from a broader perspective.

In 1973, the task force issued a five-volume report calling for 30 FSS hubs equipped with the latest automated communications gear. The report also recommended 3,500 pilot self-briefing terminals at 2,500 airports to cut down on the number of calls to FSSs for personal briefings on routine information.

The recommendations on consolidation of stations into 30 hubs meant, of course, that some stations would have to be closed. And that provoked the same kind of opposition that Administrator Halaby had faced nine years earlier. Congress, therefore, reacted by repeating its earlier prohibition on FSS closings and added that FAA couldn't even reduce the number of hours that FSS facilities stayed open for business without specific, case-by-case Congressional approval.

However, Congress did allow FAA to test consolidation on a limited scale, and the Washington FSS, which was to be relocated from its quarters at National Airport to the Washington ARTCC at Leesburg, Va., was picked as the testbed. Congress okayed the closing of five FSSs for the experiment, but ultimately only the Richmond and Charlottesville, Va., FSSs were consolidated with the automated Washington FSS when it opened in mid-1977.

Yet, while that concession by Congress was encouraging, it was severely limited and gave no indication that Congress or the aviation community was ready to embrace the notion of widespread consolidation of facilities.

So, when the revised OST/FAA Master Plan for FSS Modernization was issued in early 1978, it highlighted the need for automating the top 43 FSSs and providing pilots direct access to the system, but it skirted the controversial issue of consolidation, saying it was a matter that could be addressed at a later date.

However, Administrator Bond, in his revisions to the Master Plan, took the issue head on. He said, in effect, that FAA would not even think about taking any steps towards consolidation until the automated facilities have demonstrated they can provide "a level of service at least equal to or superior to the service available at the nonautomated locations."

He further revised the 1978 Plan by increasing the number of facilities slated for automation from 43 to 61 and scrapped the idea of collocating any of the FSSs with air route traffic control centers.

He took the latter move for a number of reasons. First, the Washington FSS experiment has shown no significant operational or cost advantages to collocation. He also didn't like the idea of isolating flight service stations from their principal users, the general aviation pilot.

Bob Bell strongly endorses that move.

The Changing Technology Over 60 Years

Flight service stations began as a string of Air Mail Radio Stations at key locations throughout the U.S. to provide weather data and other assistance to pilots who flew the transcontinental mail.

After successful experiments with air mail routes linking Washington, Philadelphia and New York and a combination rail/air mail route between New York and Chicago, the Post Office started a transcontinental air route between New York and San Francisco in 1920. On August 20 of that year, it authorized the establishment of Air Mail Radio Stations at key locations. By November 1, 10 of the 17 stations to be established were in operation, and mail was being carried from coast to coast by air.

But the trip was long and difficult and included frequent stops at such places as New Brunswick, N.J.; Bellefonte, Pa.; Cleveland and Bryan, Ohio; Chicago; Iowa City; and Elko and Reno, Nev.

These early stations generally were staffed by a one operator who worked seven days a week and stood split shifts to accommodate the dawn departure and dusk arrival schedule of the mail planes. The typical operator rose at 4:30 a.m. and began preparations for the morning flight by radioing checkpoints along the route for weather reports. At the same time, he would report his local conditions to other callers up and down the line.

Radio telegraphy was used exculsively, being cheaper than leased wire telegraphy and more dependable than voice radio. Except for experimental work, no radio communications in the early Twenties were air to ground, and radio navigation did not exist.

The radiotelegraph was usually a two-kilowatt spark transmitter through which messages were sent by code at a rate of about 30 words a minute, strictly station-to-station. It was normally housed in a small structure some distance from the airstrip so that the station's high antenna would not interfere with low-flying aircraft.

The station operator made his own weather observations and forecasts, including estimated cloud ceiling, temperature, visibility, windspeed and direction and field conditions. Additional nearby weather observations were phoned in by part-time weather observers, and pilots would pass on their inflight weather observations after landing. The trouble was that the pilot had no information about storms adjacent to his flight path, and, once airborne, he could not learn of changing weather conditions.

By 8:30 in the morning, the station operator would usually have completed all his calls and seen his pilot off the ground, shooing stray cattle off the airstrip, if necessary, helping sort and stow the mail and looking after supplies. He was then free until about 4:30 in the afternoon, when he stood a second four-hour shift, servicing the arriving daylight flight and the departing night flight.

If a landing in darkness or poor visibility was anticipated, he prepared to light the airfield with the best means at hand—automobile headlights, oil drums, flares, etc. Snowdrifts often had to be cleared from the runway, and runway edges frequently needed delineation in the form of lighted markers.

If field conditions were too poor for a safe landing, the station operator had to warn the pilot, using pre-arranged signals.

On July 1, 1927, after seven years of regular Air Mail Service, the Post Office turned over the ground-support facilities to the Department of Commerce. At the time of transfer, more than two-thirds of the 2,665-mile Transcontinental Airway was lighted with 101 electric beacons and 417 acetylene gas beacons. Ground personnel in the system consisted of 45 radio operators, 14 maintenance mechanics and 84 caretakers. The entire operation was administered by the Lighthouse Service of the Department of Commerce.

Lighting the airways and extending their radio capability had a beneficial effect on flight safety from the very beginning. The 1919 fatality ratio of one pilot killed for every 114,324 miles of Air Mail flight was reduced to one fatality per 2.5 million miles by 1926.

Development of tools for the airways system was rapid in the late 1920s.

The first radiotelephone system for ground-to-air two-way communications was installed in 1927 at Bellefonte, Pa., and the next year, the Department of Commerce began installing two-kilowatt radiotelephone and radiotelegraph transmitters in the airway stations. Concurrently, airborne receivers were designed.

Again in 1928, the first leased teletypewriter circuits were introduced as a weather data collecting system. In 1932, the Aeronautics Branch began purchasing its own. Some 700 miles of land lines went into operation initially on the New York-Chicago route. In 1931, the Weather Bureau began distributing weather maps to air terminals six times a day over these circuits, along with hourly local weather observation reports.

By 1928, the four-course radio range was developed—a breakthrough that remained the standard civil air navigation aid until after World War II. It was operated by the Airway Radio Stations.

It consisted of a 1,500-watt tone-modulated transmitter with a motor generator, goniometer, loop-tuning equipment, an automatic keying device and an antenna of two single-wire vertical loops strung on five masts—four in a square and one in the middle. Placed at right angles to each other, the loops generated a pair of overlapping figure-eight patterns. One was keyed with the Morse letter "A" (dot-dash) and the other with an "N" (dash-dot). Where they overlapped, the signal received by an aircraft was a steady tone, indicating that the plane was on course.

These aural beacons had a range of 100 miles and were spaced 200 miles apart. It gave the pilot his course line but not his position on that course, except when he was right over the station.

To solve that, the Aeronautics Branch came up with the radio marker beacon that emitted a characteristic signal that could be identified by the pilot. This nondirectional device was later replaced with a directional one that could function as a localizer range for intermediate airfields along the airways.

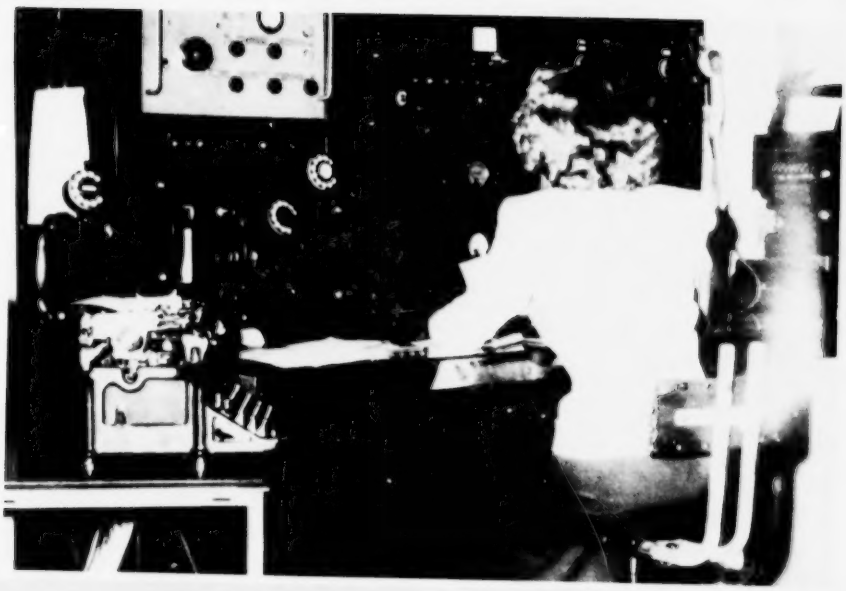
Through the succeeding years, much of the improvement in Airway Radio Station/Airway Communication Station/Flight Service Station services has been in the realm of refinements in electronic circuitry—moving into very high frequency (VHF) equipment to reduce weather and terrain interference, converting radio communications to simultaneous operation that permitted pilots to receive radio-navigation and radiotelephone signals at the same time, changing over to more-reliable Doppler systems and solid-state circuitry.

A big advance for the stations was the introduction of Adcock Direction Finding systems in the late 1940s and early 1950s, which enabled station operators to guide lost aircraft by means of signals from the aircraft radio.

In 1938, the Airway Radio Station was re-designated "Airway Communication Station" under the newly created Civil Aeronautics Authority (later the Civil Aeronautics Administration of the Department of Commerce). By this time, thanks to air-to-ground radio, station operators could actively participate in the control of a flight in progress, giving the latest weather reports and helping lost pilots find their bearings.

The term "flight service station" came into use with the creation of the Federal Aviation Agency in 1958 and has continued to the present day.

Today, the flight service station network covers all of the 50 states and reaches out to Pago Pago, Samoa, and Guam in the Pacific, to Panama and to the Caribbean. There are 317 stations, including six international stations, staffed by about 5,000 flight service station specialists. All stations are closely linked to FAA's nationwide air traffic control system by radio and Teletype.



A forerunner of the flight service station, the Airway Communication Station hired women operators during World War II.

Artist's conception of the new building that will be erected for 59 of the automated FSSs.

He said: "There's a saying that flight service stations are the front door to the FAA. Most student pilots, for example, get their first exposure to FAA through flight service stations, and it's our chance to show them we're there to serve them."

"Besides," he added, "it's important for FSS specialists to keep up with aircraft and to be familiar with the airports and the other facilities in their area. It's hard to do that when you're stuck out in the boondocks."

According to Paul Rosenwald, who has been involved in the agency's FSS modernization efforts since 1969 and now is the associate manager of the FSS Modernization Program for the Air Traffic Service in Washington headquarters, another drawback to collocation is the attitude of some flight service specialists toward controllers.

An *AOPA Pilot* magazine article last year, in fact, said that FSS specialists and controllers at Leesburg are about as compatible as "oil and water."

Rosenwald, who also was a flight service specialist for eight years at Brookville, Pa., and Dayton, Ohio, insists it's not that bad, but conceded that when some GS-11 journeymen specialists start looking at the benefits enjoyed by the GS-14 journeymen controllers, they can start feeling like they're second-class citizens."

Under Bond's plan, the 61 automated FSSs will be located at airports in 45 states and Puerto Rico. In fact, 32 are at the leading state general-aviation airports, and 27 are at satellite airports that have been earmarked by FAA for substantial upgrading to attract general-aviation pilots away from the larger, crowded airports primarily serving air carriers. Forty-three of the sites already have flight service stations.

If the Washington FSS experiment has helped steer FAA away from collocation, it also has demonstrated the benefits of consolidation, including increased productivity, better use of staff, and a net decrease in overhead costs.

Rosenwald notes, for instance, that before consolidation, the average Richmond specialist was handling fewer than 10 briefings and flight plans per hour in VFR weather, the average Charlottesville specialist 3.6 and their Washington counterpart 14.5.

A study by FAA after consolidation, by comparison, showed that the average number of briefings and flight plans handled jumped to 14.5 per hour under much worse weather conditions.

Most importantly, however, the automated Washington, Atlanta and Indianapolis FSSs have clearly demonstrated that automation works and is the key to the FSS network of the future. It relieves specialists of routine, time-consuming tasks. With automation, for instance, they don't have to riffle through reams of paper looking for information to brief pilots. And specialists will not be tied up in clerical tasks, such as monitoring the teletypewriters for reports, then tearing them off and making copies for all the specialists in the facility.

Gilbert Shade, a flight service specialist at Martinsburg, W.Va., said the Teletype request-reply circuit his facility shares with eight or nine other FSSs often is a major source of frustration." When he needs information from the computer in Kansas City, he said, "the circuit may be tied up and we can't get to it."

Also, he said, when two FSSs try to get information simultaneously, one may override the other or both may get wiped out. Or, if you make a mistake in requesting the data, you'll get the wrong data, and there's nothing you can do to stop it. You get the whole nine yards at 100 words a minute. And, again, all you can do is wait and start all over.

"I estimate that about two-to-three hours a day are wasted because of problems with the Teletype circuit,"said Shade.

"In the meantime, while you're trying to get the data, pilots may be waiting impatiently on the phone. Often, they'll tell you they can't wait; they'll take off and try to get a briefing en route. That's bad, because it gets pilots into bad habits and could get them into real trouble."

Those slow-speed teletypewriters are on their way out at the 150 busiest FSSs as an interim measure to upgrade those facilities. They are being replaced by computerized display systems on lease from Western Union, and these will stay in use for the next three years.

Without automation, FAA estimates the current labor-intensive network of 292 domestic flight service stations will require 11,500 flight service specialists and an annual cost of $320 million by 1995 to keep pace with projected traffic. By comparison, the automated facilities, staffed by 4,700 specialists (roughly the same number as today) could handle that traffic at less than half that cost.

So, FAA is moving ahead with automation. In January, the agency awarded competitive contracts totalling $12.8 million to three companies to design computer systems for the 61 new automated facilities.

In about 15 months, one of those contractors will be picked to produce a series of interconnected computers to cover the entire network. The computers will be installed at the agency's air route traffic control centers, where there are maintenance and other support services, such as computer expertise and emergency power sources. The computer systems will be linked by leased land lines to the flight service stations.

What will the new facilities look like when fully automated? Says Rosenwald: "They'll have the best features of the systems at Atlanta, Indianapolis and Leesburg, plus a lot more."

Of the three, the prototype FSS at Atlanta has been in operation the longest. Called AWANS, for Aviation Weather and NOTAM System, it was installed in 1975 and commissioned after a year's evaluation. Later, another AWANS was installed at the Indianapolis FSS.

AWANS, Rosenwald explained, is a computer-based system that collects and stores alphanumeric and graphic weather information and other aeronautical data, such as Notices to Airmen (NOTAMs), which are reports on the status of equipment and facilities in the national aviation system.

Alphanumeric weather data will

The prototype of an interim modernization now being installed at 150 busy FSSs is at the Chicago FSS. It consists of a CRT display and input device, a small computer updated by the Weather Message Switching Center in Kansas City and a backroom bank of television cameras that transmits weather facsimile maps to the CRTs at specialists' positions.

Part of the FSS automation and modernization program will be pilot self-briefing terminals remoted from FSSs to fixed-base operators, of which this is one possible configuration.

An El Paso, Tex., FSS Enroute Flight Advisory Service (EFAS) specialist checks Teletyped weather reports. Forty-four FSSs have such positions, which are expected to carry over into tomorrow's automated system for disseminating in-flight weather information.

include, for example, surface observations, winds aloft, terminal and area forecasts and any significant meteorological condition (SIGMET), such as extreme turbulence or heavy icing that may create a particular hazard to flight. Graphic data include weather radar images and weather charts received from the National Weather Service.

A NOTAM, on the other hand, may advise that an instrument landing system is temporarily out of service or that a runway has been closed for resurfacing.

All this information comes from the FAA's National Communications Switching Center in Kansas City, which distributes the information it gets from FAA facilities, the National Weather Service and other sources across the country.

At the Atlanta and Indianapolis FSSs, flight service specialists can call up from the computer any of that data by typing the correct codes on their keyboards and have it presented in an organized briefing format on TV-like displays in front of them.

Jay Fincannon, a flight service specialist at the Atlanta FSS for the past 12 years who has worked with both the manual FSS system and AWANS, said: "I know this is a cliche, but the difference is like night and day, especially when the weather is bad.

"In fact, once you get used to AWANS," he said, "it's a drag going back to the old system as a backup. If you come to work and see everybody working the backup, you feel like turning around and heading home.

"AWANS is not perfect, but it's a thousand times better than whatever's in second place."

The automated system at the consolidated Washington FSS—called MAPS for Meteorological and Aeronautical Presentation System—is similar to AWANS, says Rosenwald, but its system for retrieving weather and NOTAM data is not as sophisticated.

NAFEC's Dr. Donald W. Connolly has been developing a computer-operated Utterance Recognition Device (URD) that FAA hopes can be programmed to recognize human speech, thus permitting pilot briefings and filing of flight plans directly with a computer under the future FSS automated system. This would reduce the need for personal pilot briefings.

However, it is better at processing flight plan data, he added, so it's well suited for the Washington area where there is a lot of flight-plan activity.

Along with MAPS, there is a closed-circuit TV system for displaying weather maps and other graphics on small, separate TV monitors at the various briefing positions. But it's not part of the basic MAPS system. A specialist must do the job manually by taking maps that come from the National Weather Service over facsimile machines and arranging them under a battery of TV cameras in the back room.

In the new automated system, the graphics will be displayed automatically with a push of a button at the specialist's console, said Rosenwald.

However, that capability will not be available until the second step of FAA's three-step plan to implement automation. The first step calls for putting the basic automated equipment into operation at 41 sites. The basic package will have the capability of displaying only alphanumeric data on the specialist's scope. In step two, the graphics display will be added to and integrated with the basic automated package along with a capability for testing pilot self-briefing systems. The final step will provide for direct user access to the FSS system by means of Touchtone and later dial telephones and, eventually, computer terminals at fixed-base operators and other locations readily accessible to pilots.

Actually, this will not necessarily be the final step in the automation process; it can be introduced at any time after step one.

The General Accounting Office last year criticized FAA's three-step approach, saying that step one could be delayed and incorporated into step two, saving almost $6 million. FAA disagreed, claiming the advantages of gaining specialist and user acceptance before proceeding to the next two steps will more than offset the cost savings GAO claimed could be achieved.

Virtually all the sites slated to get automation will need new buildings. Of the 43 existing facilities, only one can be adapted to accommodate the automated equipment and later, perhaps, consolidation. Another one of these sites already has a new building under construction, leaving a total of 59 new buildings that still have to be built at an estimated cost of $110 million.

The building design calls for up to 14,000 square feet of floor space, with standard floor plans and power systems to permit national planning of equipment, systems and operations. It also provides for expansion. Construction will begin in 1982, with the first one ready to receive the second-stage automated equipment the following year.

FAA estimates the total cost of the program—automation, building program, and eventually, perhaps, consolidation—to run about $447 million. Even with that, however, the agency estimates that $1.5 billion can be saved through 1995 by replacing the current labor-intensive system with a fully-automated one.

However, an *AOPA Pilot* magazine article asked last year: How can approximately 4,700 FSS specialists, even with automated equipment, meet the demand for pilot services of the future when they cannot even meet them today? The article cited the growing number of busy signals pilots get when calling FSSs for briefings, or, perhaps more annoying, the recorded message that greets them with: "All briefers are busy. Please stand by and your call will be answered in turn."

Rosenwald admits that FAA's projected savings are predicated to a large degree on the success of pilot self-briefing devices. Otherwise, flight service stations will continue to be inundated with telephone calls for routine information.

Experiments with self-briefing equipment have been encouraging, he said. The Voice Response System (VRS) being tested in the Washington, D.C., and Columbus, Ohio, areas, for instance, has proved to be highly popular with pilots. With VRS, pilots can get briefings on certain weather conditions along their planned route of flight by using Touchtone telephones. After the system was in operation for several months, a questionnaire was sent out in the Washington area, and, of those responding, virtually everyone gave VRS high marks.

The same is true for the Pilot's Automatic Telephone Weather Answering Service (PATWAS), which was tested in the New York City area in 1975 and 1976. PATWAS produced a dramatic drop in the number and length of person-to-person briefings at the Teterboro, N.J., FSS and the National Weather Service office at LaGuardia Airport. It accounted for a significant number of preflight briefings given to pilots in that area, said Rosenwald.

With the push of a button, specialists at the consolidated Washington FSS at Leesburg, Va., can call up weather reports and other aeronautical data on CRT displays using the automated Meteorological and Aeronautical Presentation System (MAPS). MAPS is similar to AWANS but is not as sophisticated in retrieving data.

At NAFEC, FAA also is experimenting with a computer-operated Utterance Recognition Device (URD), which recognizes human speech and can, therefore, perform functions ordinarily done by a person. A group working on that project currently is trying to find a list of words which, when programmed into a computer, will allow a pilot to file a flight plan by speaking directly to the computer.

Bell says all this equipment may sound exotic, but "really all we are trying to do is bring the FSS system into the modern world.

"There really is no alternative," he said, "because there is no way we can meet future pilot demands without automation. We've gone about as far as we can with the present equipment. We're almost at the end of the rope."

The first of Midway Airlines' DC-9s are lined up at Chicago Midway Airport awaiting takeoff for proving flights prior to certification as a new interstate airline.

Photo by Neal Callahan

The Making of an Airline

Story and photos by Marjorie Kriz

Once upon a time, establishing an airline was a pioneering adventure—Charles Lindbergh blazing an air trail north to the Orient, Ralph O'Neill exploring air routes to South America and Thomas E. Braniff locating mid-western cities in the expanse of a still uncharted continent. Today, the sinuous trail is still strewn with impediments, but of a different kind.

All those early pioneers needed was a little money and a lot of nerve. In those days, the government was only marginally involved. But today, the pioneer needs lots of money and colossal nerve, as well as the blessing of the Civil Aeronautics Board and a great deal of help from FAA.

As a matter of fact, FAA does more than just help. FAA people do a lion's share of the work. At least that's how it was in Chicago recently when Midway Airlines was getting cranked up for its first jet flight.

In several ways, Midway is a unique organization. It's an airline starting out right from scratch as a full-grown, all-jet operation. Whereas most airlines begin small and gradually grow into large carriers, this one is going to start out big. Right from the beginning, it will serve almost three dozen cities in 17 states.

With three leased DC-9s as the backbone of its fleet, Midway Airlines began service on Nov. 1, 1979, from Chicago Midway Airport to Cleveland Burke Lakefront, Detroit Metro and Kansas City International Airports. But this first flight did not take place until after almost three years of planning and months of concentrated inspections and monitoring by inspectors from Chicago's Air Carrier District Office #31 and FAA inspectors from areas as distant as the East and West Coasts. Great Lakes Region specialists alone put in over 1,000 hours certifying the airline.

Twelve of the 15 inspectors assigned to ACDO #31 were actively involved in the certification process, along with two other FAAers from the region: one from the Air Transportation Security Field Office and the other from Flight Standards' Quality Assurance Systems Analysis Review unit (QASAR). The inspectors all had impressive backgrounds in airworthiness—which includes avionics and maintenance—and in operations, including flight itself. In addition, two of the inspectors, Tom Howard, who was the DC-9 program manager for ACDO #31, and William L. "Larry" Neimann, also were airman certification inspectors.

Neimann is the principal operations inspector for the airline. He was the focal point for the airline certification, and for months was tied up checking a myriad of details matching the airline's manuals against FAA regulations.

He said much of his time was invested in overseeing the neophyte airline's various training programs. Although many of the pilots had experience flying DC-9 planes in the military before joining Midway, all pilots participated in the training program.

Niemann himself traveled to the West Coast to observe the training done in the McDonnell Douglas DC-9 simulator at Long Beach.

The pilots who trained in the manufacturer's simulator subsequently gave basic indoctrination to other new pilots joining the airline. Of course, this indoctrination itself was done under the watchful eye of FAA inspectors.

All this care was taken despite the fact that over 90 percent of the pilots hired were Air Force veteran pilots and several were former McDonnell Douglas instructor pilots.

Niemann tells a story about two erstwhile Air Force flight examiners being checked through the training program. "When I was flying as a copilot in the military," he said with a grin, "it was the other way around. In those days, these guys were checking me out. As far as I'm concerned, Midway has hired the cream of the crop. Generally these guys are a little older than most new airline pilots, and they are considerably more experienced."

Besides the McDonnell Douglas simulators, Hughes Air West simulators at Los Angeles were also used for pilot

Principal operations inspector Larry Niemann (right) of the Chicago ACDO presents the air-carrier operating certificate to Midway Airlines president Irving T. Tague in front of a model of the airline's DC-9.

Bill McKim (right), principal security inspector for Midway Airlines, checks over Midway Airport terminal gate screening equipment for the airline. Similar checks were made at other terminals during the proving flights.

Riding the jump seat during the preflight check is Tom Howard (right), Chicago ACDO DC-9 program manager and airman certification inspector, who monitored flight procedures.

Chicago ACDO inspector Louis Patceg monitors the refueling of a Midway Airlines aircraft at Midway Airport prior to takeoff on a proving flight for its certification.

training. Inspectors from the Western Region kept an eye on this training, just as Eastern Region inspectors observed training carried out in the Allegheny Airlines (US Air) simulators in Pittsburgh.

An initial group of flight attendants was trained at TWA's flight attendant school in Kanses City. Although this was already an FAA-approved course, Inspector Carolyn Johnson of the Kansas City, Mo., ACDO monitored the Midway Airlines crews and reported back to Niemann.

When the day finally came for the proving flights to be flown from Midway Airport, FAA inspectors were on hand every minute of the time They looked into every nook and cranny of the aircraft and monitored every movement of the ftight and cabin crew from the time they arrived for briefings at Midway Airport until they returned from the other airports. They checked each refueling and line maintenance procedure, watched each crew and pilot briefing by dispatchers and observed baggage and cargo-handling operations.

Then, in flight, almost every conceivable disaster, from dealing with a sick passenger and an incapacitated pilot to a skyjacking and an emergency aircraft evacuation, was simulated and thrown at the crews to determine how they would react and if they would adhere to the FARs and their own manuals. On some of the proving flights, several "crises" occurred in succession, more than any airline could expect during actual operation.

Deficiencies noted by the inspectors during the proving flights were pointed out immediately and often were corrected immediately. Many were minor, but nevertheless important, such as an inoperative windshield wiper or a flight attendant finding an ashtray lying on the floor. Right away, she checked all ashtrays on the aircraft, removing those which appeared to be loose. If she reported the loose ashtrays to airline maintenance, then she earned brownie points; if not, then it was a black mark. She reported the problem, thus complying with the FARs. The wiper was fixed before takeoff.

Besides Howard and Niemann, who rode the jump seats during the proving flights, the ACDO #31 inspectors working long hours to certificate Midway Airlines were: Don Devine, Louis Patceg, George Fitzmaurice, Al Hopkins, J. R. Jones, Dave Hegy, Fred Brumm, Rhuno Nelson, John Ciasca and Charles Chism. From Flight Standards' QASAR unit was Hugh Graham and from Security was Bill McKim, both of whom rode the proving flights to check on their particular specialties.

Those from the Western Region were Doug Howard, John Goggin, Herschel Patton and Curt Whallen; from Central Region were Carolyn Johnson and Vincent Ring; and from Eastern Region were Leroy Darner, Dave Kountz and Bernie Wirl.

"But our work, that of ACDO #31, doesn't end with certification of the airline," said Larry Niemann. "We must continue to monitor its operations for proficiency and adherence to FAA's safety goals."

As for Chicago Midway Airport, operations would increase, there would be passengers in the echoing terminal building and cars in the parking lot. The world's first busy airport and holder of so many other firsts most historians have lost count, may never regain its old glory, but it still is big enough and important enough to be the home base of a new and expanding airline.

Old-timers (from the left) William S. Hall, Glen Gilbert and William H. Smith from the early days of the Kansas City Center attended a nearly-38 years reunion of controllers.

Military uniforms were common at CAA facilities during World War II. This was the Kansas City Center in June 1945. Facing the maps in the foreground were the extensive flight data strip boards common to the early centers.

When 7 Days Was a Workweek

It was no classroom exercise and no mistake, but it was 38 years ago. It was the opening day of the Kansas City Airway Traffic Control Center, Feb. 1, 1942. Six days later, another three reported in: Gessner, Roe and Current. Together with Jack Tighe and Glen Gilbert, that made up the original contingent.

Last fall, in a reunion of "CKC Pioneers" who had worked the center in its first decade, 90 controllers and their spouses converged on Kansas City to reminisce.

Recalled was the fact that these controllers worked seven days a week—56 hours—and longer if necessary to cover for illness.

Cited from the FAA history "Bonfires to Beacons" by Nick Komons were Earl Ward and Glen Gilbert, who "more than any others, were responsible for creating a new enterprise and a new profession from scratch—Ward contributing his substantial managerial skills, Gilbert his conceptual powers."

Jack Tighe, a Chicago Center controller who was one of the Kansas City originals, developed the first satisfactory "shrimp boat."

Also remembered was a pre-opening control meeting for the Kansas City Center that was scheduled for the evening Charlie Dowling was to be married. It was necessary for him to leave his wedding reception just as it started, drive from St. Joseph to Kansas City for the meeting in a borrowed car and have his best man take his bride home. "And there wasn't even a box on the efficiency rating report used then to reflect this devotion to duty!" commented co-master of ceremonies Bill Smith.

Other participants chatted about incidents that occurred before the advent of approach control, radar, center radio and PATCO. Some of the episodes made Arney Leathers and Glen Gilbert take notice, since the incidents had never been the subject of official reports!

The center's chief controller, Arney Leathers, made up the duty schedule—from midnight to 8:00 a.m.: Carmody and McCain; from 8:00 a.m. to 4:00 p.m.: Wohlers, Jones, Watt and Engelman; from 4:00 p.m. to midnight: Knenlein, Scott, Taylor, Saucke and Dowling. That was it.

Fine Talents for the Asking

Discussing Management Systems goals for the past year are (left to right) 1978 Presidential Management Intern Susan Coulter, Management Systems Director Brooks Goldman and 1979 interns Loretta McNeir and Jill Lambrecht.

Budgets are tight and personnel ceilings are making you round-shouldered in trying to get the job done. But there is a possible source of help that many FAA managers aren't aware of—the Presidential Management Intern Program (PMIP).

Begun in 1977 under an Executive Order, the program is "an opportunity for managers in this organization to develop assignments—if they don't already have some in mind—and bring in the cream of the crop from the academic world to get it done, and without going through the regular competitive personnel process." So says Terry E. Snyder, who is a headquarters personnel management specialist handling the intern program for FAA.

And now is the time to think about it, for the 1980 crop is now being screened for the Department of Transportation. To put in your bid this year, you need to develop that assignment—"one that is challenging and will pique the interest and curiosity of an individual with an advanced degree in public administration," notes Snyder. Further information on the requirements for Washington headquarters offices can be obtained from Phyllis Burbank of the Training and Career Development Branch.

If the program is expanded in the future along with a loosening of travel funds, regional participation may be increased.

PMIP is managed by the Office of Personnel Management (OPM). It is funded by the agencies, but the positions are not charged to office or service full-time permanent ceilings.

The interns begin their two-year stints as GS-9s under excepted-service Schedule A appointments and are eligible for promotion up to GS-12 and competitive-service appointments at the end of their internships.

They do not apply for the program, except in a technical sense. The deans of their schools nominate the best students, who, if they are interested, then file applications.

The candidates are then interviewed at Office of Personnel Management regional offices by state, local and Federal managers—a work interview similar to an assessment center. The regional panel's rating, a candidate's statement and the school's nomination are reviewed at the Washington OPM, after which selections are made.

In past years, 250 interns were selected; this year, 264. In 1978, the Office of Personnel and Training requested one intern and the Office of Management Systems, one—Sam Boone and Susan Coulter, respectively. In 1979, the Office of Aviation System Plans asked for one and Management Systems asked for two—Paul Hewitt, Loretta McNeir and Jill Lambrecht, respectively. This year, headquarters is expecting to sponsor three positions.

Jill Lambrecht was interested in the Department of Transportation because she had heard that it had a good internship program. Her initial project was as a member of a team conducting a technical issuance study—reviewing the system by which the agency keeps up its maintenance manuals for FAA aircraft. Part of the internship program involves rotational assignments, and Lambrecht is now working on the Program Management Staff, Office of Aviation Standards.

"Overall, I'm very pleased with the program," she says. "It allows interns to gain experience in different areas, unlike the normal entrance to government service where you go into a single job. In that way, we're getting a holistic view of the agency, and, as a result, we can become better managers."

Jeff Gongoll, who began his internship with the Federal Railroad Administration, transferred into the Safety Regulations Staff in FAA and was asked to put together a briefing package on FAA's rule-making functions, a very educational project, he found.

From his own experience and from talking to other interns, he noted that some managers only seek a body to do a job. "Others, he says, "try to help the interns learn and bring them right into their operation, thus making the interns more valuable to them."

Lambrecht added,"I think we can bring enthusiasm into the Department and maybe a new managerial perspective. We're anxious to learn and anxious to give our opinions."

WORD SEARCH

By Betty J. McKinzie
Motor Fleet Specialist, Southwest Region

This month's puzzle covers the entire Department of Transportation and then some. The words are all vehicles or types of vehicles, some of which will be found only in museums.

The words read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The words may overlap, and letters may be used more than once.

Use the word list if you must, but try covering it first. All 54 can be found. Circle those you do find and cross them off the list. The word "balloon" has been circled to get you started. When you give up, the answers may be found on page 17.

A E H M O T O R C Y C L E J D I K A Y A K B K T F
C A N O E G R M A O R H S M R T C P V E N S R L C
O F S P N B D A S M C J A L E Q U F A A R A G P V
A P U E I R O I C P W R T R U H R U N I C Y C L E
C L B D H C V S X E T Y S D I R T N W T P E O V L
H V M K M S K L R S U B I N M O S G O C I M B E O
G B A Y C I J U W A S F O T M X T R A I N F L H C
I N R T S S H I P N G U E O K E S R A E H N I S I
K O I D R E L I A R T Y B U I W O Y Z L D J M A P
D A N I G D Y P H M L I S A R H E N C R P K O H E
B J E R E T P O C I L E H T U L G U S W E F U I D
O P T I O R A Y P E Y B N X L B J T E R E D S M E
Q W A G O N K G S C F M I O F V K A V A J O I C V
D R E I U D E P T H F X R T O D B X S M C V N L D
I K W B V L C M N O I T U R S L E I G H G A E R G
C H E L C Y C I B B K M I E A B L U P N L L K O W
O P X E K A E L N Q S G N J E X H A E U R E H J A
N R A F M C N B A C U A T X L I S N B W S I A T H
E G R O D H P W O T L S E H C W K M R E T O O C S
S L A U V T J S M P E W R B Y V A O D A F D P L K
T S C T E Q T D R Z Y O U M C L T E G A I R R A C
O B M I P A C I H R N K R A I N G W C U N A H J I
G O N D O L A O R A X P B T R P J I T N E Y V E R
A J E B H X G E L R M E A O T S F Q D M I G A U K
S U B W A Y F K N F H A N S O M C D E T A V E L E

AIRPLANE
AMBULANCE
AUTOMOBILE
BALLOON
BICYCLE
BLIMP
BOAT
BUS
CANOE
CAR
CARRIAGE
CART
CHARIOT
COACH
CONESTOGA
DIRIGIBLE
DORY
DRAY
ELEVATED
FERRY
GLIDER
GONDOLA
HANSOM
HEARSE
HELICOPTER
INTERURBAN
JEEP
JITNEY
KAYAK
LIMOUSINE
MOPED
MOTORCYCLE
OMNIBUS
PICKUP
RICKSHAW
SCOOTER
SHIP
SKIFF
SKIS
SLEIGH
SUBMARINE
SUBWAY
TAXI
TRACTOR
TRAILER
TRAIN
TRAM
TRICYCLE
TROLLEY
TRUCK
UNICYCLE
VAN
VELOCIPEDE
WAGON
YACHT

BETTER LATE THAN NEVER . . . A good columnist—at least a resourceful one—always maintains a fat file of news clips. Thus, when his editor calls and says, "Hey, you're three weeks overdue with your copy," he can spring into action immediately and produce an instant column that's at least as good as anything he could come up with given the fact that he doesn't have an idea in his head, which explains why he's three weeks overdue with his copy in the first place. Of course, amassing that file of clips isn't as easy as it sounds. For example, we had to plow through six months of the *National Enquirer* to come up with one usable item. As a result, we now know more about Farrah Fawcett Majors than her very own mother. The *Enquirer* has a strange fascination with FFM and the rest of "Charlie's Angels," we've found. It also has a penchant for the occult and recently hired a psychic to prepare its readers for the wonders that lie ahead in the 1980s. One of the seer's predictions was that "Computers will replace commercial airline pilots by 1985. Planes will be flown from takeoff to landing entirely by computers—virtually eliminating accidents." Apparently the psychic has never heard the old joke about the first fully automated flight in which a recorded message assures the passengers that nothing can go wrong . . . can go wrong . . . can go wrong."

From *Aviation Consumer* magazine, we gleaned an item about the glide ratios of jet transports vis-a-vis general aviation aircraft. Surprisingly enough, the jets turn out to be better gliders with the engines shut down. For example, the Boeing 727 has a glide ratio of 17:1 in a clean configuration. That's 50 percent better than the glide ratio of the cleanest general aviation aircraft, the Mooney 201, which registers about 11:1. See, you can learn something from reading this column.

But our favorite item comes from the pages of *Private Pilot* magazine. It notes that there once really was a "Goodrich Blimp," despite what you've come to believe from those television commercials. In fact, Goodrich turned out nine blimps for the Navy during World War I. Goodrich built five Class B-series limp airships (from which the name B-limp was coined) and later built four C-series ships. One of the Goodrich C-series blimps became the first airship to fly coast to coast in 1921.

We hope our editor is happy now.

Learning Survival Indoors

The numbing cold of arctic air coupled with the piercing chill of a 25-mile-per-hour wind dropped the chill index into double-digit sub-zero temperatures. The air crew tried desperately to build a small fire as they huddled in the cold.

Fortunately for these fliers, they were not in the Arctic but inside a building at the Aeronautical Center in Oklahoma City, taking a course in survival training for flight inspection pilots.

The building is the Civil Aeromedical Institute (CAMI), and the pilots were the first of some 348 who will be taking global survival training, which includes training for desert, Arctic and water survival should their aircraft crash. Ten crewmen at a time go through the three-day course.

FAA airmen who live through a crash can expect to be rescued within 48 hours, according to CAMI, but they are being trained to take care of themselves in the wilderness for much longer than that. *(Continued on page 19)*

DIRECT LINE

Q **I am in a GS-11/12/13 slot, and after one year in grade at GS-11, I was recommended for promotion to GS-12. I had an above average PER, and my supervisor told me that I should expect the promotion effective two weeks after my year in grade was completed. A few days before my effective date of promotion should have taken place, my supervisor told me that the regional training office had called about his not having submitted the proper training records; as a result, my promotion would be delayed. The records were sent in sufficient time, but the promotion was delayed two more weeks. This will cost me a lot over the years. My supervisor says there is nothing he or I could do to change my effective date of promotion, although it was not my fault, nor would a grievance do any good because there's nothing automatic about promotions. What are my rights?**

A As a general rule, a personnel action may not be made retroactive so as to increase the rights of an employee to compensation. Exceptions are made to this rule where administrative or clerical error (1) prevented a personnel action from being made as originally intended, (2) resulted in nondiscretionary administrative regulations or policies not being carried out or (3) has deprived the employee of a right granted by statute or regulation. In your case, it appears that the delay in processing your promotion occurred before a proper, completed promotion request was submitted to the personnel office. This situation does not meet the criteria for a retroactive personnel action. All FAA employees are entitled to present grievances under the grievance system. If you believe you have one, you have a right to file in accordance with agency Order 3770.2A.

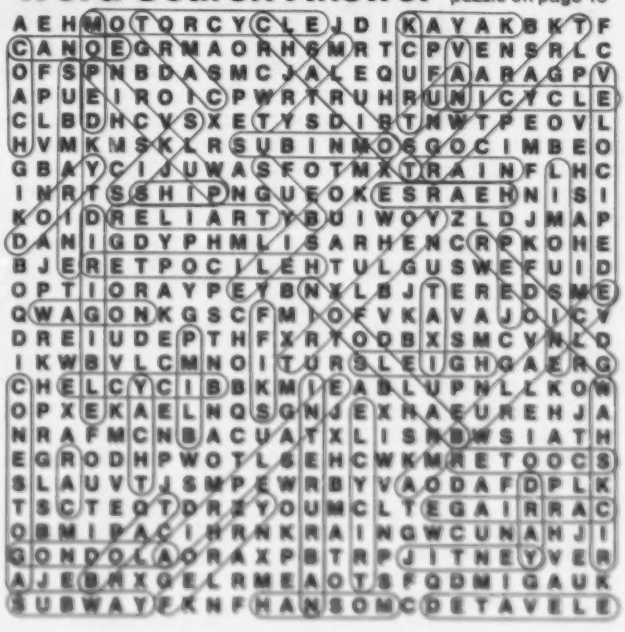
Q **There is no question that performance standards are necessary and desirable, but I question the implementation of the standards in my case. My supervisor decided that new standards were necessary for certain positions. The standards were developed and, for the most part, are fair. However, the supervisor put them into effect retroactively. Even though they were first discussed with me in late January, I was informed that they had been placed into effect as of Oct. 1, 1979. Several of the goals in the standards cannot be met by starting now, several months later. Therefore, I anticipate that I and others in a similar position will receive lower-than-normal PERs. Several other employees had yet to have their standards explained and their goals established. Is it agency policy to place new performance standards into effect retroactively? Does the Office of Personnel Management permit it? Is it fair?**

A The governing document outlining the agency's policy on performance standards is Order 3430.3A. It [illegible]fies that performance standards should be revised or [illegible]uped when (1) a new position is established, (2) changes occur in assigned duties and responsibilities or (3) the mission or function of the work unit changes. In other words, performance standards should be kept up to date. Employees should receive and review their performance standards at the beginning of the rating period. Obviously, this cannot always be accomplished when there are differences in rating dates for employees in similar positions. When situations like this occur and new performance standards are developed, it is our interpretation that a reasonable grace period must be given the employee before the new standard is used for giving a performance rating. Implementing performance standards retroactively is not consistent with the intent of FAA Order 3430.3A,and FAA does not condone it. OPM regulations on performance standards do not provide for their retroactive application, either.

Q **Can a controller legally instruct a helicopter to make its approach and land at a location on the airport other than a runway of a designated heliport? Please cite specific directives.**

A A controller may legally instruct a helicopter to land at other than designated landing areas when so specified in a Letter of Agreement. To date, locally developed Letters of Agreement are the only directives used for guidance. Washington headquarters has recognized the need for specific procedural guidance on helicopter operations and is considering initiating draft proposals.

Word Search Answer puzzle on page 15


A E H M O T O R C Y C L E J D I K A Y A K B K T F
C A N O E G R M A O R H S M R T C P V E N S R L C
O F S P N B D A S M C J A L E Q U F A A R A G P V
A P U E I R O I C P W R T R U H R U N I C Y C L E
C L B D H C V S X E T Y S D I B T N W T P E O V L
H V M K M S K L R S U B I N M O S G O C I M B E O
G B A Y C I J U W A S F O T M X T R A I N F L H C
I N R T S S H I P N G U E O K E S R A E H N I S I
K O I D R E L I A R T Y B U I W O Y Z L D J M A P
D A N I G D Y P H M L I S A R H E N C R P K O H E
B J E R E T P O C I L E H T U L G U S W E F U I D
O P T I O R A Y P E Y B N X L B J T E R E D S M E
Q W A G O N K G S C F M I O F V K A V A J O I C Y
D R E I U D E P T H F X R T O D B X S M C V N L D
I K W B V L C M N O I T U R S L E I G H G A E R G
C H E L C Y C I B B K M I E A B L U P N L L K O W
O P X E K A E L N Q S G N J E X R A E U R E H J A
N R A F M C N B A C U A T X L I S R D W S I A T H
E G R O D H P W O T L S E H C W K M R E T O O C S
S L A U V T J S M P E W R B Y V A O D A F D P L K
T S C T E O T D R Z Y O U M C L T E G A I R R A C
O B M I P A C I H R N K R A I N G W C U N A H J I
G O N D O L A O R A X P B T R P J I T N E Y V E R
A J E B R X Q E L R M E A O T S F Q D M I G A U K
S U B W A Y E K N F H A N S O M C D E T A V E L E

One Can Make a Difference

By Patricia Calise

It was 1978, and Roy Johnsen was whisking along on a smooth highway east of Teguchigalpa, Honduras, in an air-conditioned Mercedes Benz bus. This modern environment made him wonder why he was taking a year's leave of absence from his job as a general aviation operations inspector at the Albany, N.Y., GADO, purportedly on a mission of mercy in the jungle.

He had volunteered to participate in "Wings of Hope," a non-sectarian, non-profit and non-political aviation-oriented organization committed to providing medical rescue, communications and economic development services to the needy in remote areas of the world.

Soon, the road ended, though, and Johnsen transferred to a smaller bus that lurched along a dirt road, hitting more potholes than it missed.

The signs of modern technology had faded, and each passing mile took him nearer to the environment he expected.

Suddenly the road disappeared and he joined a line up of trucks facing a raging river that blocked their way. It was three days before the waters subsided.

Santa Maria, his destination, was a picture-postcard collection of tiled roofs and whitewashed adobe and mud houses encircling a 20-acre pasture—an air force emergency field. Five- and six-thousand-foot mountains formed a horseshoe around the town, pointedly indicating that there was no road past—just burro trails and foot paths into the jungle and the Patuca Valley beyond.

With 20 years of flying experience, Johnsen had flown every type of aircraft—from helicopters to aircraft-carrier jet fighters during the Vietnam War. It was then going to be no problem for him to pilot a Cessna 185 from village to village in the Patuca Valley.

Medical personnel unload a sick Patuca Valley resident from the Cessna 185 at the provincial capital of Donli, as Johnsen leans into the plane to guide the rear of the stretcher.

His homebase airstrip was to be that 20-acre pasure in Santa Maria. A couple of local youhs, whom Johnsen called "cowboys," managed cows and horses that kept the grass short on the airstrip and clearedthe animals off during takeoffs anclandings. Similarly, a word from Johnsen about the height of grass along the dit strips in the valley produced a crew of men with machetes to cut the gass. They were all only too happy to please this man who flies the big silver bird into their villages carrying the sick andsupplies of medicine, food and tools.

Johnsen son found poignant examples of the value of his stint in the Honduran jungle. He saw it in the eyes of a young man standing by the side of the runway, his collarbone shattered from a fall from a horse and protruding through his skin. The sweat of a two-mile walk still soaked his clothes. It would have been a four- to seven-day walk to the "outside" for a healthy man, and the two miles had already drained him, but in less than an hour he was in the hands of doctors—a lifetime away but a short flight near.

An Indian in the Upper Patuca River Valley had never heard the sound of the silver bird, but he had heard through the jungle telegraph of a man and a metal bird that took sick people away and

brought them back restored. He had to find the bird or die, for tropical ulcers were eating away at him. His right arm hung limp and his left could barely raise food to his mouth; walking was an effort. He gathered his family and their few possessions and set out.

For 20 days, they struggled along muddy jungle trails and hacked out new trails with a machete. His 15-year-old son, suffering from malnutrition and parasites, had not the strength to carry him, so the trip was slow and painful.

Johnsen found the family waiting on an airstrip one day. The man could no longer stand and was sick with fever. Compassionate farmers had doled out funds to support the family until the airplane's arrival.

Wonder and hope barely suppressed the terror welling within the sick man as he was lifted into the plane and the engine started. As Johnsen revved the engine and started taxiing, the man's family fled in fear into the protective jungle. Twenty minutes later, the Indian's arm was being swabbed by doctors.

Weeks later, the lung-deep holes in his chest, once filled with banana leaves and native herbs, were healing. His left arm was completely functional and he could feel strength returning to his right arm. Johnsen flew him back to his family.

Johnsen spent a year flying people, salt, tools, hardware, food staples and barbed wire and administering the program. The expertise he brought both as a pilot and as an operations inspector led Wings of Hope to cite him for "consolidating [the program] into the well-run professional operation which is functioning there now."

"It was the most memorable year of my life," Johnsen said. "This place grows on you. But there are the realities of life to return to, and there's only one of me."

Roy Johnsen

SURVIVAL continued from page 16

As crews of FAA aircraft that regularly check the worldwide system of navigational aids, all fly in hostile climates at times. Only one flight inspection aircraft has been lost, and that one was at sea off Recife, Brazil, in which one crewman died. That loss led to survival training for all flight inspection crew members.

In CAMI's cold chamber, the crew is given the same emergency equipment that they could expect to find in the Sabreliners and Jet Commanders they normally fly. In fact, they simulate evacuation from remnants of these very planes. In this laboratory, which can drop the temperature to -30 degrees F., the airmen worked at lighting survival fires with the spark of a storage battery and cotton balls or other material that might be found in a wrecked aircraft. In this case, none of the crew was able to start a fire until instructor Joe Nix stepped into the leader's role and showed them how.

"I don't want to tell someone that something will save his life unless I know for certain that it will," said Nix, an expert in survival and physiology. He counts Air Force and FAA fliers and astronauts among his students.

He recalls his horror at discovering that regulation survival equipment aboard an Air Force plane was all but useless. Insulated survival clothing stored in the plane was so tightly packaged that it took inspectors three hours to remove the wrapper and several hours for it to fluff up enough to be usable. also, in cutting the wrapper away, the contents were cut.

FAA's survival course includes tips on how to find water and shelter at sea, in the Arctic or in the desert, on first aid and on signaling to attract rescuers. Of course, part of any survival course involves learning what to eat and what to leave alone.

In ditching-at-sea instructions, Nix loads the students into the nearly wingless fuselages of a Sabreliner that never flew and a Jet Commander that had crashed. The crewmen take the same seats they would in operational planes when on inspection flights, and the fuselages are hoisted into the water-filled survival tank. The hoist also keeps the planes from sinking.

In preparation for this exercise, Nix told his students, "Okay, change into your flight suits. When we come back from shooting the flare guns, you can get in your airplanes and crash."

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Heads Up

CENTRAL REGION

Norman S. Baker, deputy chief of the Kansas City, Mo., Flight Service Station, from the Burlington, Iowa, FSS.

EASTERN REGION

Thomas W. McGee, an assistant chief at the Washington ARTCC, from the Enroute Operations and Procedures Branch, Air Traffic Service.

GREAT LAKES REGION

James L. Campbell, an assistant chief at the Indianapolis Tower.

NORTHWEST REGION

Edward M. Gass, deputy chief at the Boise, Ida., Tower.

PACIFIC-ASIA REGION

Ronald D. Harris, chief of the Plans, Programs and Evaluation Branch, Air Traffic Division . . . **Dalton P. Peterson,** chief of the Procurement Branch, Logistics Division . . . **George W. Wiggins,** an assistant chief at the Honolulu ARTCC.

ROCKY MOUNTAIN REGION

Dennis J. Enright, chief of the Bismarck, N.D., Airway Facilities Sector Field Office, from the Grand Junction Colo., AF Sector.

SOUTHERN REGION

Philip Loftin, chief of the West Columbia, S.C., Tower, from the Greensboro, N.C., Tower . . . **Marcus Milner,** chief of Knoxville, Tenn., Airway Facilities Sector Field Office . . . **Louis Ruiz, Jr.,** chief of the Dyersburg, Tenn., Flight Service Station, from the San Juan, P.R., International FSS.

WESTERN REGION

Alfred E. Anthony, chief of the Los Angeles Air Carrier District Office . . . **Harry K. Boyle,** an assistant chief at the Las Vegas, Nev., Tower . . . **John D. Marley,** chief of the Lancaster, Calif., AF Sector Field Office . . . **Charles W. Ralston,** chief of the Scottsdale, Ariz., Tower, from the Las Vegas Tower . . . **Hoy H. Washburn,** chief of the Oakland, Calif., Flight Standards District Office.

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FAA WORLD

May 1980

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The Third Year

FAA WORLD

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Volume 10 Number 5

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An Interview With the Administrator On the State of the Agency

Cover photo by Neal Callahan

Q After three years on the job, have you been captured by the FAA "establishment?" In other words, do we now have you thinking like an FAA person?

MR. BOND: I think more and more like an FAA person. I don't know that the conclusions I reach, given any particular problem, are any different from what I might have concluded in the past. But the longer you sit in a job and sort of marinate and get to know people, you begin to understand more and more about the institution and its mores. I understand them about 30% now.

Q One of the trade publications noted recently that you had been up on Capitol Hill testifying more than any previous FAA Administrator. Is this a problem?

MR. BOND: Yes. It seems to me that all I do is testify. And it is a preoccupation, not only because it takes time to do it but also because of the time required to build up mentally. Some of these hearings are very emotional—people having died in a crash. It takes time to back off and to get back to normal emotionally after it.

I know it takes a heavy toll on the other senior people in the FAA who must come up with me to help handle the questions. In fact, I think that it must be even harder for them, since their background is technical rather than political.

Another factor is that, inevitably, the pressure and the negative publicity erode one's own sense of self-esteem and is a depressing factor on morale. It depresses my morale because the person that in the end gets blamed is me.

But it also hurts the other people, as well, and the FAA, of course, gets such a disproportionate amount of publicity compared to other institutions in the government. I guess the bottom line is that any statement on aviation safety is bound to get network time, especially on a slow news day.

Q By the same token, your speech schedule is probably lighter than any recent administrator. Is that by conscious design?

MR. BOND: Yes. I don't like to go around and make speeches and structured public appearances; I like to go and look at the machinery, visit factories and talk to people. But accepting invitations to address some kind of a function is not my cup of tea. So I don't do much of it, except when I have something to say. The enforcement speech was one, and there have been a number of others—announcement of new Part 135, for example.

Q Do you have any plans in the works for reorganization at the regional level?

MR. BOND: There have been none. I intend to address the organizational structure of the regions, but I have not got to it yet. I do not mean to suggest that there are any consolidation or closure plans for the regions, but perhaps we can make the regional headquarters' structure simpler and leaner in the way we worked on headquarters here in Washington. But I have not even begun that work.

Q You've been asked so many questions about the DC-10, we almost hate to ask another. But with almost a year of retrospect, are you satisfied with the way we handled that crisis?

MR. BOND: I don't know how we could have done it any better. You just look at it every step of the way, and I've been over that a million times, and so have all the other people in the business. I don't know what else could have been done—given the uncertainties and the factual unknowns that existed and the terrible threat of the recurrence of the same accident. I think that what I said on this subject originally still is true. I'm going to take the choice that is the most safe.

Q As a follow up to that, is the establishment of the Blue Ribbon Panel to look at the agency's certification program in effect an indictment or criticism of that program?

MR. BOND: It's an inquiry. I wouldn't call it a criticism. I supported its es-

I think that our certification program is fundamentally correct.

tablishment myself. The panel had its origins in my conversations with Secretary Adams some time ago, and I think it's a good idea. The more public ventilation and professional examination of the process, the better. We will benefit from that. I don't regard it as a criticism at all.

Q Can you perceive the panel's report having a major impact on the way we do business here at FAA?

MR. BOND: That's predictive, and I would prefer to wait until the report comes out. However, I can express an opinion on what I think our program is like. And I think that our certification program is fundamentally correct. The responsibility rests on the manufacturer. I think that they should continue the way it is. But like everything else we do, I'm sure it can be improved.

Q Do you think we're "losing" the FAA professional groups—controllers, technicians and others—in the sense that they are looking more and more to their unions for leadership and direction and less to management?

MR. BOND: That's an inevitable consequence of expanding unionism, and there's no doubt in my mind that unionism is assuming a larger role in people's lives. In any case, whatever people feel about a union, it is incumbent on management to do its job so well that employees do not feel that the union is their only recourse. I find that most labor-management disputes are basically a question of how to deal with people and people's individual problems. We don't do that job well enough; if we did, our labor relations would be better. I think we're making progress along that line. But it's slow going, and I think in the past we may have been a little too—how would you say—quasi-military, or paramilitary, authoritarian, perhaps, in our approach. That won't wash today.

Q There have been rumors floating around about a controller strike or other job action in connection with the renegotiation of the PATCO contract. Would you care to comment on that, particularly, what the impact would be on FAA, the union and the public?

MR. BOND: Well, I'm very upset at the prospect of illegal action. I think it would be very, very damaging to the public and to the FAA; the union would lose, as well. Nobody wins in an illegal strike.

In last year's FAA WORLD interview, I said that the union had undermined its moral base through its actions in 1978. I think that the statement is worth repeating because it's true. When the union was created, I think controllers had legitimate grievances against management. As a result, there was public sympathy and support for the actions the controllers took.

That public backing does not exist today because the abuses are not there. The staffing levels are better, the pay is not just good but excellent by any standard, and the equipment is much improved and is getting even better. Any illegal activity that comes along, especially now when there is a general feeling of intolerance toward illegal work actions by public employees, is going to damage PATCO. There undoubtedly will be pressures for FAA to take strong action. Congress itself may take strong action.

People forget that many of the benefits that have come to the union membership in recent years have required a sympathetic Congress as well as negotiations with management.The same holds true for what PATCO seems to want most in any future contract—a reduction in the workweek, collective bargaining for wages and so on. Those goals would have to be achieved through Congressional action if they are achieved at all. No amount of pressure brought to bear on FAA management can achieve them, because the law would have to be changed. Thus, Congress would have to be the target of any illegal job action, and the paradox here is that the more they pressure Congress, the less likely they are to achieve their aims. I'm not sure this fact is fully understood, despite the experience with the 1978 slowdown. There seems to have been a failure in discussions with the union membership to tie proposed actions to goals or to explain fully just how the mechanism really works.

There is an alternative, however, to illegal conduct for the realization of the

legitimate goals of any union. That is, first, staying within the law and, second, using the available political channels and public information and discussion channels that exist to gain the end. I think that the Congress and the Executive Branch will approve of that approach, if it's used.

Q FAA is often accused of "foot dragging" in correcting safety problems. Do you think these criticisms are fair, and what are you doing about them?

MR. BOND: I think the criticisms are justified as a historical statement; I do not think, however, that they are correct as a statement of present circumstances or present effort. When I took over here, it was pretty apparent to me—not only from my own observation but also because so many people told me so—that it just took forever to get rules out and that FAA was very slow in doing business. I already have tried to get people in positions of leadership and to simplify structures in a way that will speed regulatory and other processes. I believe we have made progress on that front and we're going to continue to do so.

However, one of the major factors—whether it's purchasing new hardware, implementing equipment, or promulgating regulations—is the exceedingly long and detailed steps we must go through to get such a product on the street. Those requirements are imposed by law and apply for the most part to all federal agencies—and we cannot slip that. In the past, our people have not been very good at working within these constraints. I find that there are a lot of good electrical engineers and pilots who are not very good at dealing with the regulatory tangle. They've got to be good at both to do our job today.

Q Regarding your "get tough" enforcement program, you've taken the view that FAA should be a cop, not a coach. But can't an FAA inspector be both? And, in the long run, might not this approach achieve more lasting results?

MR. BOND: I didn't say we should be a cop and not a coach. I said we should be more cop, as well as coach. We should be both, and I tried to emphasize that balance. I think there was an imbalance before, and we're moving to correct it, getting more fines and more injunctive relief. People are sitting up and taking notice when an FAA inspector comes around now, because they know they are likely to be caught if their act is not together, and they're likely to be penalized for it. I think that is altogether to the good. The FAA people that I have talked to out in the field who are responsible for enforcing the rules seem to be uniformly happy with this resumption of tough enforcement action.

Q One final question—how would you compare the work environment today with when you took over three years ago? Do you think it's a better, a more productive environment?

MR. BOND: Well, I may be the wrong person to ask the question, because after all, a view of the world from the Administrator's office is much the same year to year. The people out working in the field are better qualified to answer you.

However, the indices that I can point to are clearly up in terms of productivity, and that is an achievement; nor is there any erosion of safety or increase in delays. So, if that is a measure of the work environment, it is clearly better.

People are sitting up and taking notice when an FAA inspector comes around now

Did You Know . . . ?

On Sept. 1, 1919, this pilot landed his plane on the roof of the Army Quartermaster's warehouse in Newark, N.J., turned it around and took off to the astonishment of those who witnessed it. No trace of this historic event or even of the pilot later on can be found in any aviation historical books. Like many others, he has flown off into oblivion.

The 20 questions below are designed to recall the famous and not-so-famous aviation pioneers and their contributions to the development of the aviation industry.

Match the names with the deeds. To check whether you deserve the title of "Quiet Birdman," check the answers on page 14.

1. MAX MILLER ( )
2. CHARLES DICKINSON ( )
3. WILLIAM B. STOUT ( )
4. BLANCHE SCOTT ( )
5. R. W. SCHROEDER ( )
6. JOHN WISE ( )
7. JULIA CLARK ( )
8. BENJAMIN LIPSNER ( )
9. RUTH LAW ( )
10. GLENN CURTISS ( )
11. OCTAVE CHANUTE ( )
12. ERVIN E. BALLOUGH ( )
13. OLE FLORTOP ( )
14. IRA O. BIFFLE ( )
15. ANDREW DREW ( )
16. EMIL M. LAIRD ( )
17. KATHERINE STINSON ( )
18. E. HAMILTON LEE ( )
19. WASHINGTON DONALDSON ( )
20. JAMES H. KNIGHT ( )

A. Was awarded the first pilot's license in the United States.

B. Was the first pilot to loop-the-loop with a passenger.

C. Was the first pilot to land on and then take-off from the roof of a building.

D. Is considered the "father" of the Airmail Service.

E. Was the first to attempt to fly across the Atlantic in a balloon.

F. Was the first pilot to be hired by the Post Office Department to fly the mail.

G. Was the first woman pilot to ever loop-the-loop.

H. Piloted the first leg of the first transcontinental flight from Chicago for Boeing Air Transport.

I. One of aviation's first propeller manufacturers, who built the one used by Lincoln Beachey.

J. Was the first woman to graduate from the Glenn Curtiss School at San Diego, Calif.

K. After being fired, caused the first pilot's strike in the country.

L. Was one of the first aviation editors in the United States.

M. Designed the wing used by the Wright Brothers at Kitty Hawk.

N. Was the first airport manager in the U.S. to hold a pilot's license.

O. Made one of the most famous flights in U.S. history on Feb. 22, 1921.

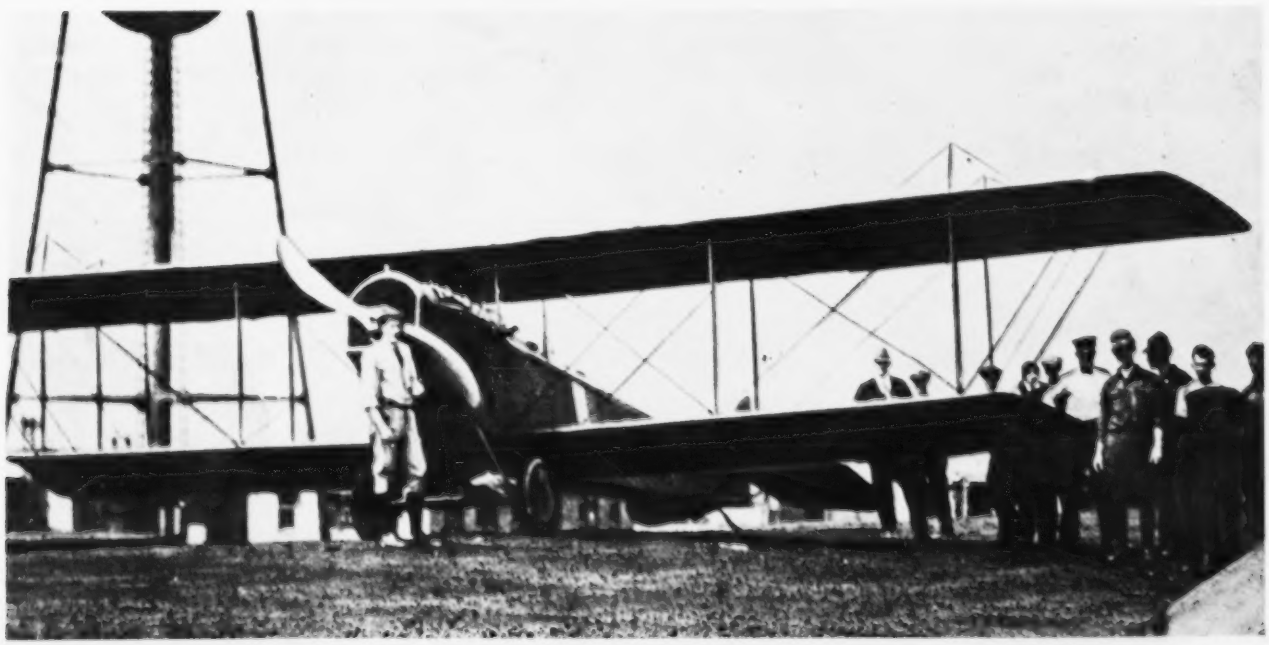
P. Set a world altitude record of 38,180 feet on Feb. 27, 1920. Participated in the Hindenberg investigation.

Q. If alive, would be the oldest licensed pilot in the world, 121 years old.

R. Was the first to carry mail by air in the United States.

S. Flew an airplane designed to fly 25 miles a record 666 miles on Nov. 19, 1916.

T. First woman to be taught to fly by Glenn Curtiss himself.



The exterior of the new Technical and Administration Building was almost complete when this photo was taken last fall.

An artist's conception of the lobby court in the new building.

NAFEC Requests Your Company

You no longer can look for NAFEC—the National Aviation Facilities Experimental Center—in the pine barrens northwest of Atlantic City, N.J. You won't find it there later this month.

In its place will be the Federal Aviation Administration Technical Center—a spanking new name for a research complex with spanking new facilities. The name change will occur May 29 with the dedication of a $50 million Technical and Administration Building, an all-weather heliport and the largest indoor fire test laboratory within the Federal Government.

The new name was chosen by Administrator Langhorne Bond for conciseness and to better reflect the center's mission and function.

NAFEC . . . er . . . the Technical Center is inviting all FAA employees to attend the week-long ceremonies, which include the inauguration of a 7,200-square-foot Visitors Center in the new building, fly-ins, aircraft displays, aerial demonstrations, aviation-oriented seminars and tours of the building and the entire 5,000-acre center.

"Our goal for the dedication and open house," said Joseph Del Balzo, director of the center, "is to make this a memorable event befitting the uniqueness of our new, modern facility and the special joint effort that made it all possible."

The year-round Visitors Center, within the 10,000-square-foot main lobby, will tell the story of FAA and the role of the center through exhibits, displays and audio-visual presentations.

Inquiries about arrangements to visit the center should be directed to the Dedication Planning Committee, ANA-2D, Room 122, Bldg. 12, NAFEC, Atlantic City, N.J. 08405, or by calling (609) 641-8200, ext. 1101.

DIRECT LINE

Q In "Direct Line" of the December 1979 issue of FAA WORLD, you state that "The DOT Guide is applicable to the classification of positions at an air traffic approach control facility with 100,000 or more instrument operations annually." On Dec. 17, 1978, the Atlantic City Tower was upgraded from a Level II to a Level III approach control facility with 100,000 instrument operations. Prior to upgrading, the staffing in the Nav/Com Unit was four GS-11s and two GS-9s. The upgrading consisted of three GS-11s to GS-12s and two GS-9s to GS-11s. According to the classification guide, all technicians should have been upgraded. Why was one not?

A Under the DOT Classification Guide for electronics technician positions at certain locations, the radar and communications system cerfitication for two or more complex systems at Atlantic City qualified for upgrading to GS-12 when the approach control met the criteria of 100,000 instrument operations annually. The navaids system certification there did not meet the criteria for upgrading to GS-12 because the airport itself did not have 100,000 or more instrument operations annually. When the criteria for radar and communications system certification at GS-12 was met at Atlantic City, the official position descriptions for the GS-11s in the Nav/Com Unit only contained responsibility for systems certification on navaid systems and did not indicate any responsibility for systems certification work on the tower communications system. Thus, none of the GS-11 positions in that unit met the criteria for upgrading. To permit an upgrading, new position assignments had to be made and classified. Since the Nav/Com Unit had a 16-hour, seven-day watch coverage, only three new positions could be established at the higher grade level, and they were filled under provisions of the Merit Promotion Plan. It should be noted that if the watch coverage increases in the Atlantic City Nav/Com Unit, more positions could be established at the GS-12 level.

Q I am a controller in a Level II VFR tower. I have requested transfer to seven Level II radar approach-control towers. My chief says that he and the region will not release me if I am selected for an opening. He says that a move from a Level II to another Level II, regardless of the radar, is not career progression. I have heard that it is. Are the chief and region correct in not releasing me?

A Your region does not confirm what your chief told you. Reassignment from a Level II nonapproach-control tower to a Level II radar approach-control tower is considered to be career progression. Employees requesting ingrade reassignment are covered by the provisions of the Internal Placement Handbook, PT P 3330.9. In accordance with paragraph 300e of this handbook, employees selected through internal placement are to be released promptly. In the case of a geographic move, employees are to be released not later than 30 days after notification of selection. Under unusual circumstances, release dates may be extended by mutual agreement of the regions involved. In determining if unusual circumstances are present in a particular situation, regional resources must be considered. This process includes the analysis of the overall regional staffing level, facility staffing levels and permanent change-of-station funds. If, during this process, it is determined that an ingrade reassignment will not severely impact your region's operational effectiveness, your release should be effected.

Q According to paragraph 430d of Handbook, 7110.65A, an aircraft must not only have reported the preceding aircraft in sight and be instructed to follow it before being cleared for a visual approach but also must meet part C and have the airport in sight. However, according to the Airman's Information Manual, paragraph 383a, "the aircraft must have the airport in sight or the preceding aircraft in sight before the clearance is issued." I have seen both of these procedures used by controllers, even though the two manuals appear to contradict each other. Which is correct?

A Both manuals are correct. The Airman's Information Manual (AIM) describes the visual approach procedures associated with a radar environment, as prescribed for controllers in Handbook 7110.65B, paragraph 796. Paragraph 430 addresses nonradar facilities and nonapproach-control towers. Change 6 to 7110.65, effective Oct. 1, 1977, expanded the authority of nonapproach-control towers to include clearing more than one aircraft for a visual approach, provided the succeeding aircraft had both the destination airport and the preceding aircraft in sight. The AIM does not address the difference between radar and nonradar visual-approach procedures because the operational differences as perceived by the pilot are so insignificant that the additional discussion of controller requirements would add little to a pilot's understanding of the ATC system and would probably create more confusion than it would cure. In any event, the 7110.65 procedures are binding on the controller, while the AIM is directed toward pilots and is strictly advisory in nature.

Q Many of our co-workers in the past have brought our problem as far as Congress without any results. Just how much is a police officer worth? Park Police, Capital Police, Customs officers and Washington, D.C., Zoo Police, just to name a few Federal police agencies, seem to think their people are worth something and rightly pay them for their work. FAA Airport Police, however, don't seem to be worth that much, since our top salary is equivalent to most other Federal police agencies' starting pay, even though we basically do the same work. If you'd like to see a zoo, go to Wash-

ington National Airport some Friday evening. Why does the janitor sweeping the floor at the airport, with almost no training of any kind and very few responsibilities, have a higher salary than I do? Most people tell us our job is so easy; at times it is, but not one of them is standing beside us when we're investigating a bomb threat. I seldom hear people tell me I'm overpaid when they need my assistance on a roadway. I'm not asking to become rich; I'd just like to be able to survive without having to work overtime. I feel it would be only fair for us to earn as much as our fellow Federal police officers. Can't anyone help us?

A police position at Washington National and Dulles International Airports is officially classified as Airport Police Officer, GS-083-5. This means that officers' pay is set according to the General Schedule system, which is a standard pay system used for administrative, technical and professional positions government-wide. Janitors at the airports are paid under the Wage Grade system, which sets pay according to the wage rate of similar occupations in private industry in a particular metropolitan area. Since private-sector wages in the Washington, D.C., area are comparatively high, there may be some janitors who do make more than Airport Police Officers. The Park and Zoo Police cannot be compared with Airport Police since the Park and Zoo Police positions are not classified using Office of Personnel Management (OPM) job-grading standards and their pay is exempted from the regular General Schedule (GS) pay plan as a result of a past act of Congress. The authority to establish grade-level criteria or to provide higher pay rates for Airport Police rests with OPM. Although FAA has been successful in gaining approval for higher pay rates for Airport Police in the past, OPM has recently decided that the existing rate is equitable.

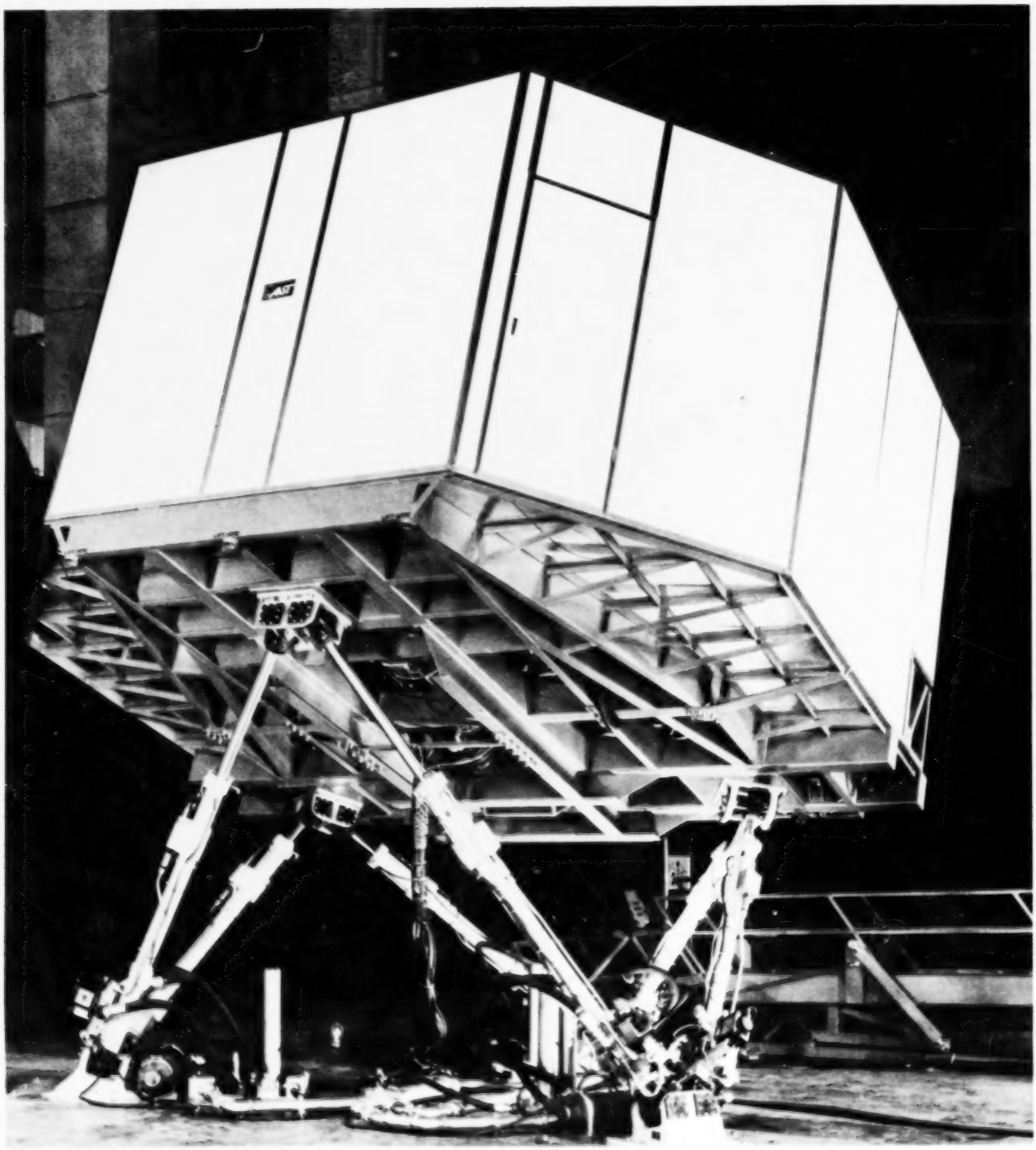
I worked a 3:00 p.m. to 11:00 p.m. shift on a Sunday for which I was not compensated for five hours of night differential. Although my chief had made several attempts to get the payroll office to correct this error and I have not been able to get a response to a letter I wrote them, I would like to find out what some of my rights are. Can I place a claim with the government to recover the lost interest that the money would have earned in a savings account for the last few months, the lost purchasing power of the money based on the Federal inflation price index and the costs for correcting the payroll error—legal fees, certified letters, stationery, etc.?

In general, claims against the Federal Government are payable only to the extent that the sovereign immunity of the United States has been waived by an express statutory or contractual provision. There is no express statutory or contractual authority that would permit the payment of either interest or lost-purchasing-power claims on a back-pay award. Under the Back Pay Act, 5 USC, Section 5596 (b) (1) (A) (ii), reasonable attorney's fees can be recovered by the employee for correcting an improper personnel action, but only if incurred with respect to a decision of an unfair labor practice or a grievance processed under a negotiated grievance procedure. In your case, however, the legal costs of correcting the payroll error are not recoverable.

I work at an airport in a region that has published IFR departure precedures. The Airman's Information Manual states that this type of procedure is made to assist the pilot departing IFR to avoid obstructions. If the weather is definitely IFR and approach control issues a clearance to an aircraft that includes a departure procedure that conflicts with the published procedure, is this clearance legal, or should the published procedure be given? If the pilot wishes to execute the published procedure, must he first receive approval from ATC, or can he simply execute the procedure and then continue with the ATC clearance he received? What is the intent of paragraph 350e of Handbook 7170.65?

As you indicated, IFR departure procedures are developed and published specifically to assist pilots in avoiding obstacles or terrain. Compliance with the published procedures is the pilot's prerogative and responsibility, except when you, the controller, include the published departure procedure as part of the ATC clearance to ensure separation from other aircraft. However, if you want to issue a different departure procedure, it must provide the required obstacle clearance—that is, be compatible with the obstacle clearance purpose of the published departure procedure. See TERPS, Chapter 12, and Handbook 7110.65B, paragraph 350.c.(1). The pilot is expected to comply with the ATC clearance as issued. See FAR 91.75, Compliance With ATC Clearances and Instructions. If a standard instrument departure (SID) is established for the intended route, then the SID should be issued, unless the pilot has expressed a preference not to use a standard instrument departure. At airports with ATC services, a direction of takeoff, turn or initial heading may be issued, either in conjunction with a published departure procedure or in the absence of one. At airports without ATC, however, the procedures are different. If the airport has a control zone but no tower in operation, you may specify direction, but you also must obtain the pilot's concurrence that the directions are compatible with his obligations for terrain and obstruction avoidance and local traffic patterns at the airport. This is where Handbook 7110.65B, paragraph 350.e. comes in. This paragraph and the example it contains provide guidance for requirements such as that in paragraph 350.c. (2) on obtaining the pilot's concurrence. Without all the particulars of your situation, we can't say whether the local practice is legal.

Learning to Fly
By the Seat of the Computer



A Singer Advanced Simulation Technology simulator for a Boeing 727 is banked for a turn. Though happening inside a building, the simulated flight could fool a pilot.

By Dick Stafford

The passengers were comfortably seated, the flight attendants moving through the aisles of the Boeing 747 checking seatbelts and unstowed luggage. The voice of the co-pilot came over the intercom. "Welcome, ladies and gentlemen, especially those of you who are flying the 747 for the first time. I'd like to say that this is my first time, too."

Far fetched? It isn't. It may soon be possible for a pilot to actually fly a large jet aircraft for the first time, without any experience aloft in that aircraft.

That doesn't mean that the pilot hasn't flown before. He very probably has thousands of hours in many types of aircraft. To obtain his certificate to pilot a 747, however, he may soon receive all of his training in a simulator under a proposed regulation put forth by the FAA. That proposal, which would permit pilots to go from simulator to line, recognizes the great advancement made in simulator technology in recent years, and the agency firmly believes that simulator training is the key to turning out better pilots.

Simulators have been around in aviation for a long time. Edward Link developed his famous "Link Trainer" in 1929, and many World War II pilots trained in the small square box that moved up and down to duplicate aircraft motion. Airlines began using a simulator shortly after the war, and in 1954 the FAA recognized it for pilot proficiency testing.

In the late 1960s, visual attachments appeared on the simulator market. Since that time, a breakthrough in computerization has permitted the development of computer-generated-image visual systems. The visual systems, as well as other technological advancements brought the FAA to the realization that nearly total simulation was technically possible.

In 1975, according to FAA Simulator Projects Manager Charles Huettner, the idea of an advanced simulator plan began when the FAA, United Airlines and the Singer-Link Company met to determine where the state of the art was and was not. That meeting resulted in flight test and engineering programs, which, in turn, resulted in the first simulator approved by the FAA for landings.

Beginning at United Airlines in 1977 and then at American and Pan American Airlines, that achievement marked a new beginning for simulators for training. "There was no question that simulators could make better, safer pilots," Heuttner says, "and the FAA was anxious to push improvements as far as possible."

Today's simulators, built at a cost of $4-to-$5 million dollars are very close to the "real" world of flight. They move up and down, just as the old models did, but the added dimensions of sight and sound are close to the real thing.

The new simulators look and sound like a cockpit interior. When the system is turned on, the pilot doesn't see a movie of an airport runway; through advanced computer visual technology, he may actually feel he is on the runway. As the "plane" rolls for takeoff, the bumps in the cement are felt, the lift off is sensed, the wheels are heard retracting and the airport is seen fading below. If the pilot banks to the right the airport is there, on the right, under him. The simulator responds to the pilot's every action, in real time.

Why the increased use of simulators in pilot training? Captain R. E. Norman, Jr., chairman of the Air Line Pilots Association's pilot training committee, cites two

Training for Work on the Trainers

In 1977, the Federal Aviation Administration began its own simulator program at the FAA Academy in Oklahoma City.

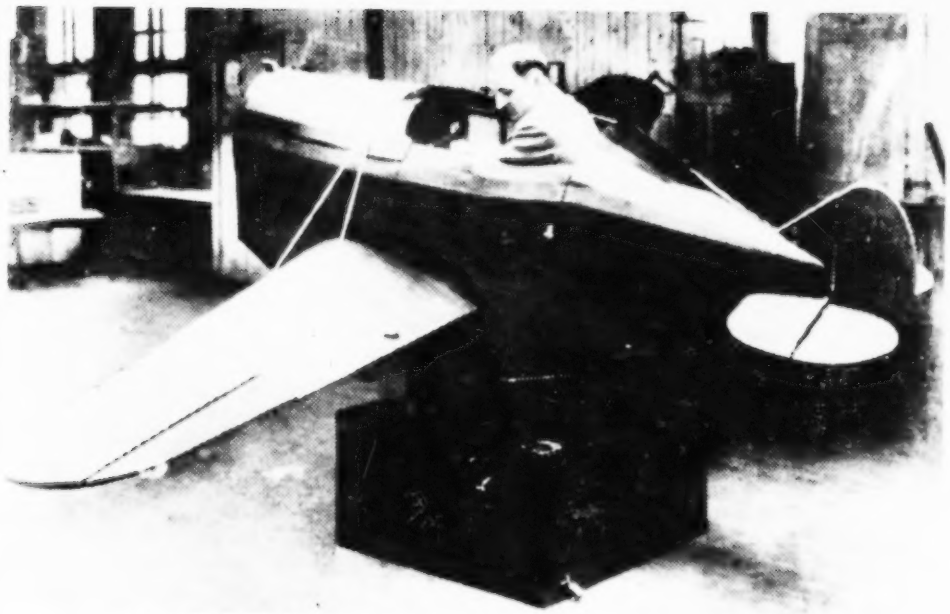
The FAA's Simulator Evaluation Course was designed to train Flight Standards inspectors who are responsible for approving flight simulators used in the training programs of commercial airlines and other operators of large aircraft.

The course consists of classroom and simulator laboratory instruction in the techniques, procedures, policy and criteria of evaluating and approving aircraft simulators and visual systems. The purpose of the training of FAA inspectors is to assure that the simulators used in crew-member training represent, as closely as possible, actual aircraft performance. In addition, the training should portray a satisfactory transfer of learning from the simulator to the airplane.

The FAA has developed the following approval criteria for the certification and evaluation of crew-member simulators:

- The simulator software should be programmed with data which accurately represents the aircraft, the flight environment and the ground environment.
- The simulator hardware should accurately represent the aircraft and produce minimal electronic interference (noise) to the computer software. It also should provide a fast rate of transfer from input to output.
- The motion system should be smooth and responsive and closely duplicate the motion of the real aircraft.
- The visual system should be responsive and the visual presentation realistic.

The FAA's evaluation course is one week, with only four students in each course, of which there are 20 per year. The agency has trained about 170 inspectors as simulator specialists on a 727 simulator leased from Braniff Airlines. The current plan is to continue the training through 1982, at which time approximately 450 specialists will have completed the course.



Edward Link flies his first "Link Trainer" in 1928, the beginning of ground-based flight training that saves lives, equipment and fuel.

what the real experience would be like."

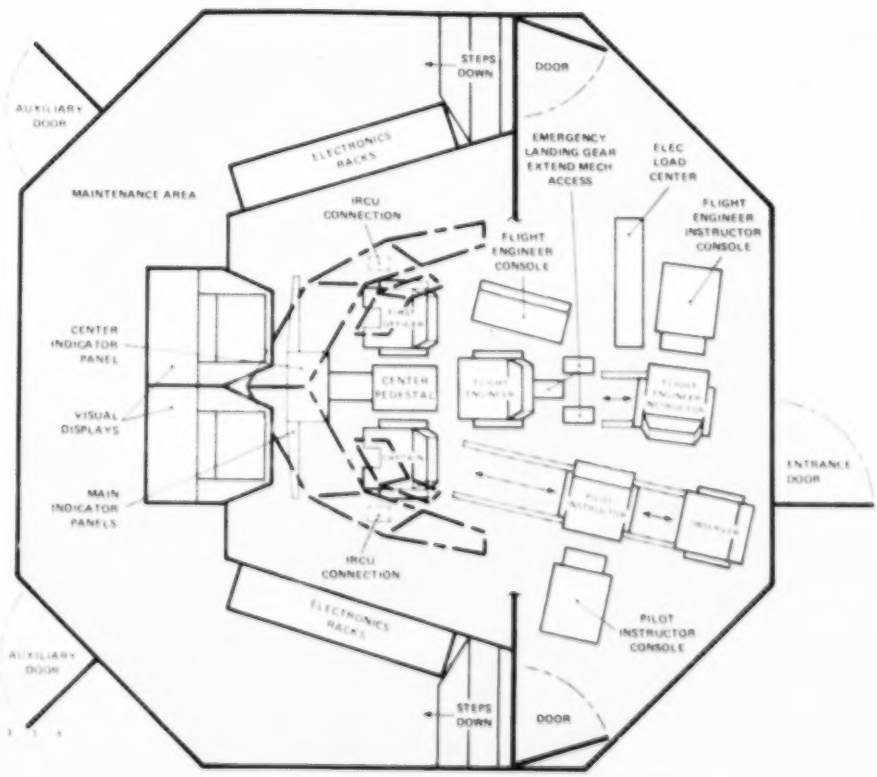
The economics of simulator training are very evident. Frink estimates that the cost of training a 747 pilot on-line today averages between $4-$5,000 per hour. As jet fuel costs increase, that figure is likely to soar. The FAA estimates that increased simulator training would save 32 million gallons of fuel per year. ALPA reports that more than 200 million gallons of fuel are saved annually through the use of flight simulators for all types of training.

Simulators are here to stay. What does the future hold? As Captain Norman put it, "We want the pilot to forget that he is in a simulator—that's the goal."

major reasons—safety and economics. He says that the use of flight simulators has made it possible to attain a near-zero training accident rate in the past several years, compared to the high loss of lives and aircraft during earlier years of the jet age, when most training was accomplished aloft.

The consideration of safety is what it's all about. As the technology for duplicating the real world of flying advances, simulators provide valuable and realistic training for pilots, who learn to cope with or avoid the circumstances that cause accidents.

Al Frink, director of training for Pan American, says, "We love to play with the four-engine monsters, but we don't like to break up airplanes." Frink, an early advocate of simulators, goes on to add that "there is no way to teach a pilot how to make an aborted take off or a Category III landing. With a simulator, he can do these and learn something of



A top view of the interior of an AST simulator.

The flight line at the newly opened Aeronautical Center in 1946 boasted three Lockheed Electra 10As and, at the right, a C-47—the military version of the DC-3 workhorse.

A Pilot Retires

J. Paul McDonnell in mufti in 1947 with his DC-3 flight inspection plane, NC 84.

With FAA itself going on 22 years of age, there aren't very many oldtimers around the agency whose careers spanned the less-complex era of the Civil Aeronautics Administration.

One such who recently retired was J. Paul McDonnell, an FAA pilot with 37 years of CAA/FAA service. Going out as the chief of the Flight Inspection Field Office in Battle Creek, Mich., McDonnell reminisced about instrument flying and the changes in it, both from the standpoint of the agency and its navigational aids and of the pilot and his aircraft instruments.

"Instrument flying today, with our modern navigational aids, is light years ahead of what it was in the mid-40s," he recalled. "Navigational aids were mostly low-frequency ranges, with only a few instrument landing systems. In those days, if you filed an instrument flight plan at an INSACS (inter-state airway communication station—predecessor to the flight service station), everyone opened their mouths in awe. Now, of course, it's an everyday occurrence like going to breakfast."

Still focused on that era, he added, "The Chicago Center then was in one little room above a hangar on the west side of Municipal Airport, with no radar, lots of traffic and only one ILS at the airport."

McDonnell has seen this instrument flying from the inside of the Lockheed 10 Electra twin, the twin Beech, the ubiquitous DC-3 and, finally, the Sabreliner jet, working both the general-aviation and air-carrier sides of the street at airports throughout the region. He is credited with flight-checking the nation's first VOR (very high frequency omnirange) on the Chicago-to-New York airway in 1948.

He learned to fly in 1938 in Velva, N.D. "Three of us bought a Taylor Cub, with a 37-hp engine, on condition that the dealer teach us to fly," he said. "We used to fly down the highway, and the cars would pass us."

From 1941 to 1944, he was stationed at Tulsa, Okla., as an Army Air Corps civilian flight instructor on PT-19s.

Then he came to the CAA in Houston, Tex., at a predecessor to the Aeronautical Center as an instructor in instrument and multi-engine transition. McDonnell transferred to the center when it opened in 1946 in Oklahoma City, then transferred again in 1947 to flight inspection in Chicago.

In 1957, he moved to the Chicago Air Carrier District Office, then back to flight inspection in Minneapolis. He was chief of the Battle Creek FIFO from 1973 to the end of 1979.

McDonnell intends to keep on flying in retirement, but "with gas at $1.40 a gallon, I can't afford to buy my own airplane," he said glumly.

His Silent Phoenix

Parts are jumbled across the Harlingen, Tex., hangar floor like the skeleton of some prehistoric Pterodactyl. To make this long-dead bird—a Waco CG-4A military cargo glider of the World War II Epoch—fly again will be the job of John Huska.

Chief of the Space Management Staff of the Facility Support Division at the Aeronautical Center, Huska is also a member of the Confederate Air Force and the national wing commander of the World War Two Glider Pilots' Association—the two sponsors of the restoration. He wants a piece of this action, but doesn't have the time to spend on trips to Harlingen, the home base of the Confederate Air Force. So, Huska is hoping for approval to move the parts to Max Westheimer Field at Norman, Okla.

The glider restoration will be a big job, and Huska recognizes that many volunteers will be needed to put together this aircraft, whose tail stands 12 feet, seven inches high and has an 84-foot wing and a 48-foot fuselage.

Meanwhile, the Confederate Air Force's first project is to complete the restoration of a C-46, which is being accomplished in record time, thanks to the joint efforts of volunteers from the Aeronautical Center, industry and Tinker Air Force Base.

Huska smiles at this, because the C-46 was used in China, Burma, India and Europe as a cargo carrier . . . and as a glider-tow aircraft. Some day, he hopes to see the C-46 in the skies over Oklahoma towing his CG-4A glider.

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Did You Know . . . ?

quiz on page 6

1.	F	8.	D	15.	N
2.	Q	9.	S	16.	B
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PERSPECTIVE ON POLITICKING

A Federal Employee's Guide

It's the quadrennial bout in big politics—the Presidential election year—and partisan passions are already heating up. But cool it, Federal employee; for the most part, you should be an interested spectator until election day.

The 1939 Hatch Act is still on the books, and it continues to regulate the partisan political activities of Federal employees. The law was designed primarily to protect us from abuses that once were rife. At one time, it was common practice for politicians to force career government employees to support a party or candidate or even to contribute money.

You not only have a right to seek information, express opinions and participate in the political process, but you have an obligation to perform your civic duty. It's a sad commentary that only about half of the American electorate actually casts its votes.

There is no restriction on your voting in a primary or general election or expressing a political opinion, but you may not take an active part in partisan political management or campaigns, even if willing to do so. Local elections in which there are no parties of state or national standing are not so proscribed.

The Hatch Act prevents us from assuming general political leadership or from becoming prominently identified with any movement, party or faction. For the most part, employees of the Federal Government and the District of Columbia are subject to political-activity restrictions, whether career or excepted service, part-time or temporary.

Below is a guide for your political conduct. If you have a specific question, contact the Labor Relations Branch of your servicing Personnel Management Division or ARTCC personnel specialist.

YOU MAY

YOU MAY register and vote as you choose.
YOU MAY assist in voter-registration drives.
YOU MAY express your opinion about candidates and issues.
YOU MAY participate in campaigns where none of the candidates represents a political party.
YOU MAY contribute money to a political organization or attend a political fund-raising function.
YOU MAY wear or display political badges, buttons or stickers.
YOU MAY attend political rallies and meetings.
YOU MAY join a political club or party.
YOU MAY sign nominating petitions.
YOU MAY campaign for or against referendum questions, constitutional amendments, ordinances, etc.

★ ★ ★ ★ ★ ★ ★ ★ ★

YOU MAY NOT

YOU MAY NOT campaign for partisan candidates or political parties.
YOU MAY NOT work to register voters for one political party only.
YOU MAY NOT make campaign speeches or engage in other activity to elect a partisan candidate.
YOU MAY NOT be a candidate or work in a campaign if any candidate represents a national or state party.
YOU MAY NOT collect contributions or sell tickets to a political fund-raising function.
YOU MAY NOT distribute campaign material in a partisan election.
YOU MAY NOT organize or manage political rallies or meetings.
YOU MAY NOT hold office in a political club or party.
YOU MAY NOT circulate nominating petitions.
YOU MAY NOT campaign for or against a candidate slate in a partisan election.

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